$\widehat{\mathcal{A}}$ -class, 430	additive G -category with involution, 383	
\widehat{A} -genus	idempotent complete, 148	
higher, 430	idempotent completion of an additive	
A-regular, 499	category, 148	
A-theoretic Swan ring, 606	AF-algebra, 293	
A-theory	Alexander trick, 87	
(non-connective) A-theory spectrum, 168	algebra	
connective A-theory, 168	Roe algebra, 423	
absolute	algebraic number field, 35	
neighborhood retract, 264	almost connected, 320	
retract, 604	almost equivariant	
abstract	(ϵ, S) -almost G-equivariant, 591	
simplicial (G, \mathcal{F}) -complex, 579	$(\epsilon, \langle S \mid R \rangle)$ -almost G-equivariant, 599	
simplicial complex, 579	almost transfer \mathcal{F} -reducible group, 610	
simplicial G-complex, 579	α -close maps, 575	
action	α -domination, 575	
amenable group action, 491	α -homotopic maps, 575	
finitely <i>F</i> -amenable group action, 603	α -homotopy equivalence, 575	
homotopy action of a finitely presented	α -homotopy inverse, 575	
group on a space, 598	amenable group action, 491	
homotopy action of a group on a Z-chain	anima, 176	
complex, 690	annihilator of a sublagrangian, 212	
homotopy action of a group on a space, 598	Arf invariant, 213	
homotopy coherent G -action of a group on a	Artinian	
space, 600	module, 52	
homotopy S-action on a space, 678	ring, 52	
N - \mathcal{F} -amenable group action, 603	aspherical, 257	
strong homotopy action of a group on a	assembly	
space, 600	analytic Baum-Connes assembly map, 416	
topologically amenable group action, 491	assembly map for algebraic K-theory, 403	
acyclic	assembly map for algebraic K -theory with	
U-acyclic, 88	coefficients in additive categories, 382	
map, 138	assembly map for algebraic K-theory with	
space, 137	coefficients in higher categories, 385	
additive ∞-category, 186	assembly map for algebraic K-theory with	
additive category, 146	coefficients in rings, 378	
additive G -category, 381	assembly map for algebraic L-theory, 404	
© The Editor(s) (if applicable) and The Author(s), u	nder exclusive license to Springer 857	
Nature Switzerland AG 2025		
W. Lück, Isomorphism Conjectures in K- and L-Theory, Ergebnisse der Mathematik		
und ihrer Grenzgebiete. 3. Folge / A Series of Mode	rn Surveys in Mathematics 78,	
https://doi.org/10.1007/978-3-031-98976-6		

assembly map for algebraic <i>L</i> -theory for rings with involution, 379 assembly map for algebraic <i>L</i> -theory with coefficients in rings with involution, 379 assembly map for algebraic <i>L</i> -theory with coefficients in additive categories with involution, 384 assembly map for <i>G</i> -homology theories, 436 assembly principle, 561 homotopy theoretic assembly transformation, 566 asymptotic dimension, 492 equivariant, 609 automorphism <i>ϵ</i> -controlled automorphism of a geometric module, 578	AF-algebra, 293 contractible, 293 Cuntz C*-algebra, 293 exact, 492 Kirchberg C*-algebra, 293 maximal group C*-algebra, 288 nuclear, 288 proper, 743 reduced group C*-algebra, 287 separable, 289 stable, 289 unital, 287 C*-identity, 286 Calkin algebra, 287 CAT(0)-group, 498 finite-dimensional CAT(0)-group, 498
	category
balanced product	additive, 146
balanced smash product of pointed <i>C</i> -spaces,	additive ∞-category, 186
349 of C spaces 340	admitting factorizations, 185 category of cofibrations, 165
of C-spaces, 349 of a pointed C-space with a C-spectrum,	category of weak equivalences, 165
349	category with G-support, 613
ball	category with cofibrations and weak
closed ball around x of radius δ , 682	equivalences, 165
open ball around x of radius δ , 682	category with the two-out-of-six property,
Banach algebra, 286	185
Banach *-algebra, 286	exact, 146
unital, 287	filtered, 65
barycentric subdivision, 579	flasque additive category, 147
basis 70	full stable subcategory of a small stable
cellular, 78	∞-category, 178
stable basis, 237	homotopical Waldhausen category, 185
stably <i>U</i> -equivalent, 237 <i>U</i> -equivalent, 237	of compactly generated spaces, 312 pointed category, 165
bordism	pointed category, 103 pointed ∞-category, 177
normal, 222	right-exact ∞-category, 183
Bott isomorphism, 37	right-exact G - ∞ -category, 190
Bott manifold, 429	small, 50, 146
Bott periodicity, 277	stable ∞-category, 177
boundary	strong category with <i>G</i> -support, 644
boundary amenable group, 492	cell
of a non-singular ϵ -quadratic form, 232	equivariant closed <i>n</i> -dimensional cell, 313
bounded	equivariant open n -dimensional cell, 313
cobordism, 124	cellular
control over ℕ, 615	basis, 78
geometry, 423	map, 313
h-cobordism, 124	pushout, 47
map, 124	center of a group, 130
metric space, 727	central extension, 130
Bredon homology, 340	universal, 130
Burnside ring, 362	chain complex
G* 1 1 20/	bounded, 697
C*-algebra, 286	contractible, 77

dual, 220	cone
elementary, 39	of a C^* -algebra, 293
finite, 38	reduced cone, 348
finite based free, 77	Congruence Subgroup Problem, 104
finitely dominated, 691	Conjecture
finitely generated, 38	Aspherical closed manifolds carry no
free, 38	Riemannian metric with positive scalar
positive, 38	curvature, 431
projective, 38	Atiyah Conjecture, 51, 55
chain contraction, 77	Bass Conjecture for fields of characteristic
chain homotopy representation, 688	zero as coefficients, 56
change of rings homomorphism, 30	Bass Conjecture for integral domains as
Chern character	coefficients, 58
equivariant Chern character for an	Baum-Connes Conjecture, 418
equivariant proper homology theory, 360	Baum-Connes Conjecture for torsionfree
equivariant Chern character for complex	groups, 294
topological K-cohomology, 283	Baum-Connes Conjecture with coefficients,
for complex topological K-cohomology, 278	418
for complex topological K-homology, 278	Borel Conjecture, 260
for real topological KO-cohomology, 280	Borel Conjecture for a group G in dimension
for real topological KO -homology, 280	n, 260
class group of a Dedekind domain, 34	Bost Conjecture, 421
classifying G-CW-complex for a family of	Cannon Conjecture, 269
subgroups of G , 318	Cannon Conjecture in the torsionfree case,
classifying space	269
for a family of subgroups of G , 318	Comparing algebraic and topological K-
of a group, 63	theory with coefficients for C^* -algebras,
coarse embedding in a Hilbert space, 490	306
cobordism, 85	Comparison of algebraic K-theory and
bounded, 124	homotopy K -theory for torsionfree
diffeomorphic relative M_0 , 85	groups, 160
<i>h</i> -cobordism, 85	Embedding Conjecture, 55
over M_0 , 85	Farrell-Jones Conjecture for (smooth)
s-cobordism, 85	pseudoisotopy, 462
trivial, 85	Farrell-Jones Conjecture for (smooth)
cocompact, 346	pseudoisotopy with coefficients, 462
coefficients of an equivariant proper homology	Farrell-Jones Conjecture for (smooth)
theory extend to a Mackey functor, 359	Whitehead spectra, 462
cohomological dimension	Farrell-Jones Conjecture for (smooth)
for groups, 329	Whitehead spectra with coefficients, 463
for modules, 329	Farrell-Jones Conjecture for A-theory, 462
virtual, 331	Farrell-Jones Conjecture for homotopy
cohomology	K-theory with coefficients in additive
complex topological K-cohomology, 277	G-categories, 468
real topological <i>KO</i> -cohomology, 280 colimit	Farrell-Jones Conjecture for homotopy
	K-theory with coefficients in additive G-categories with finite wreath products
of a functor to abelian groups, 50 of a functor to rings, 50	468
colimit topology, 312 of C*-algebras, 288	Farrell-Jones Conjecture for homotopy <i>K</i> -theory for torsionfree groups, 159
of rings, 65	Farrell-Jones Conjecture for <i>K</i> -theory for
=	torsionfree groups and regular rings, 153
compact operator, 287 compact support over X, 614	Farrell-Jones Conjecture for $K_0(R)$ for
compact support over X , 614	torsionfree G and regular R , 49
compactly generated space, 312	torsionifice of and regular IV, 47

 $K_1(RG)$ for regular R and torsionfree G, 110Farrell-Jones Conjecture for $K_0(RG)$ for regular R, 50 Farrell-Jones Conjecture for $K_0(RG)$ for regular R with $\mathbb{Q} \subseteq R$, 50 Farrell-Jones Conjecture for $K_0(RG)$ for an Artinian ring R, 52 Farrell-Jones Conjecture for $\widetilde{K}_0(\mathbb{Z}G)$ and Wh(G) for torsionfree G, 110 Farrell-Jones Conjecture for L-theory for torsionfree groups, 244 Farrell-Jones Conjecture for negative K-theory of the ring of integers in an algebraic number field, 125 Farrell-Jones Conjecture for negative Ktheory and Artinian rings as coefficient rings, 125 Farrell-Jones Conjecture for negative K-theory and regular coefficient rings, Farrell-Jones Conjecture for the algebraic K-theory of Hecke-Algebras, 469 Farrell-Jones Conjecture for Wh₂(G) for torsionfree G, 135 Fibered Meta Isomorphism Conjecture for functors from spaces to spectra with coefficients, 459 Fibered Meta-Isomorphism Conjecture, 438 Fibered Meta-Isomorphism Conjecture with finite wreath products, 478 Finite Models for $\underline{E}G$, 337 Full Farrell-Jones Conjecture, 387 Gromov-Lawson-Rosenberg Conjecture Homological Gromov-Lawson-Rosenberg Conjecture, 430 Stable Gromov-Lawson-Rosenberg Conjecture, 429 Homotopy invariance of the L^2 -Rhoinvariant for torsionfree groups, 431 Idempotent Conjecture, 52 Idempotent Conjecture for prime characteristic, 52 Integral Novikov Conjecture, 422 K-theoretic Farrell-Jones Conjecture with coefficients in rings, 379 K-theoretic Farrell-Jones Conjecture with coefficients in additive G-categories

with finite wreath products, 386

K-theoretic Farrell-Jones Conjecture with

coefficients in additive G-categories, 382

Farrell-Jones Conjecture for $K_0(RG)$ and

```
K-theoretic Farrell-Jones Conjecture with
   coefficients in higher G-categories with
   finite wreath products, 387
K-theoretic Farrell-Jones Conjecture with
   coefficients in higher G-categories, 385
K-theoretic Farrell-Jones Conjecture with
   coefficients in the ring R, 378
K-theoretic Novikov Conjecture, 405
K-theory versus homotopy K-theory for
   regular rings, 478
Kadison Conjecture, 297
L-theoretic Farrell-Jones Conjecture with
   coefficients in additive G-categories
   with involution, 384
L-theoretic Farrell-Jones Conjecture with
   coefficients in additive G-categories with
   involution with finite wreath products,
L-theoretic Farrell-Jones Conjecture with
   coefficients in rings with involution, 380
L-theoretic Farrell-Jones Conjecture with
   coefficients in rings with involution after
   inverting 2, 380
L-theoretic Farrell-Jones Conjecture with
   coefficients in the ring with involution R,
L-theoretic Farrell-Jones Conjecture with
   coefficients in the ring with involution R
   after inverting 2, 379
L-theoretic Novikov Conjecture, 405
Manifold structures on aspherical Poincaré
   complexes, 266
Meta-Isomorphism Conjecture, 436
Meta-Isomorphism Conjecture for functors
   from spaces to spectra, 451
Meta-Isomorphism Conjecture for functors
   from spaces to spectra with coefficients,
Nil-groups for regular rings and torsionfree
   groups, 155
Novikov Conjecture, 253
Passage for L-theory from \mathbb{Q}G to \mathbb{R}G to
   C_r^*(G,\mathbb{R}), 473
Poincaré Conjecture, 86
Rational \widetilde{K}_0(\mathbb{Z}G)-to-\widetilde{K}_0(\mathbb{Q}G)-Conjecture,
smooth Borel Conjecture, 260
Strong Bass Conjecture, 58
Strong Novikov Conjecture, 422
Trace Conjecture for torsionfree groups, 297
Trace Conjecture, modified, 428
Unit-Conjecture, 115
```

Weak Bass Conjecture, 58

Zero-Divisor Conjecture, 55

Zero-in-the-Spectrum Conjecture, 298	of C^* -algebras, 288
conjugate	of groups, 65
F-conjugate, 56	of modules, 65
continuous control, 615	of rings, 65
control	directed set, 65
bounded control over N, 615	directed system, 65
continuous control, 615	of C^* -algebras, 288
Control-Strategy, 580	of groups, 65
gaining control, 580	of modules, 65
gaining relative control, 580	of rings, 65
controlled	directly finite
algebra, 578	module, 53
_	ring, 53
ε controlled homotopy equivalence, 576	•
ϵ -controlled <i>h</i> -cobordism, 575	disk bundle, 284
ϵ -controlled morphism of geometric	domination
modules, 578	α -domination, 575
cover	finite domination of a CW-complex, 37
F-cover, 595	finite domination of a chain complex, 38
open F-cover, 595	double of a ring along an ideal, 101
crossed product	Dress group, 605
maximal crossed product of C^* -algebras,	Dress-Farrell-Hsiang group over \mathcal{F} , 606
288	Dress-Farrell-Hsiang-Jones group over \mathcal{F} , 608
reduced crossed product of C^* -algebras, 288	dual chain complex, 220
crystallographic group of dimension n , 546	Dwyer-Kan localization, 176
Cuntz C^* -algebra, 293	
CW-complex	Eilenberg swindle, 147
finite, 37	Eilenberg-MacLane space, 252
finitely dominated, 37	elementary
labeled, 721	(n, n)-matrix, 71
cyclic homology, 160	chain complex, 39
cyclotomic trace, 161	collapse, 80
	expansion, 80
Dedekind ring, 34	ϵ -controlled
degree one map, 221	ϵ -controlled \mathcal{A} -chain homotopy equiva-
δ -hyperbolic	lence, 700
group, 322	automorphism, 700
metric space, 321	chain homotopy equivalence, 700
Dennis trace map, 160	domination, 704
descent homomorphisms	isomorphism, 700
for KK-theory, 303	self-chain homotopy equivalence, 700
dimension, 680	
	ϵ -homotopic maps, 576
covering dimension, 680	equivalence of categories, 350
minimal homotopy dimension, 331	equivariant
of a simplex, 579	asymptotic dimension, 609
of a topological space, 680	Borel homology, 346
of an abstract simplicial complex, 579	closed <i>n</i> -dimensional cell, 313
of an open cover, 680	homology theory, 344
topological dimension, 680	homology theory over a group, 372
Dirac element, 744	open <i>n</i> -dimensional cell, 313
dual, 744	smooth triangulation, 315
Dirac-dual Dirac method, 743	essentially unique, 177
direct limit	eta-invariant, 431
of a functor to R-modules, 50	Euclidean retract, 603
of a functor to abelian groups, 50	Euler class, 284

category, 146 exact C^* -algebra, 492 functor, 146 excisive, 564 external, 130 contral, 130 contral, 130 contral multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 603 finited domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form e -quadratic formation, 231 stably U -based e -quadratic formations, 238 standard hyperbolic e -symmetric form, 205 formation e -quadratic formation, 231 stably U -based e -quadratic formation, 238 trivial e -quadratic formation, 231 fractional ideal, 34 Franz' Independence Lemma, 91 Fredholm operator, 279 free free unitary representation, 89 functor additive invariant, 180 connective algebraic K -theory functor on $CATST$, 183 exact functor of additive categories, 146 functorial additive invariant for finitely dominated CW -complex, 47 fundamental Lemma of Homological Algebra, of dimension $\leq n$, 314 of dimension of an abstract simplicial complex, 579 surgery Exact Sequence, 248 finiters obstruction, 45 modelli e -quadr	exact	non-singular ϵ -quadratic, 209
functor, 146 excisive, 564 exotic sphere, 87 extension central, 130 closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 38 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space, 672 flow G -space admitting strong contracting transfers, 682 form e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 stably G -based e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 stably G -based e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 stably G -based e -quadratic formation, 231 stably G -based e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 stably G -based e -quadratic formation, 231 stably isomorphic e -quadratic formation, 230 stably isomorphic e -quadratic formation, 231 stably isomorphic e -quadratic formation, 231 s	category, 146	non-singular ϵ -symmetric form, 205
excisive, 564 exotic sphere, 87 extension central, 130 closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{H} -filtered, 198 category, 65 left \mathcal{H} -filtered, 198 right \mathcal{H} -filtered, 197 system, 65 finite \mathcal{G} -support, 614 asymptotic dimension, 492 decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a $\mathcal{C}W$ -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group action, 603 finite domination, 702, 704 of a $\mathcal{C}W$ -complex, 39 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow \mathcal{G} -space admitting strong contracting transfers, 682 form \mathcal{E} -quadratic, 209 standard hyperbolic \mathcal{E} -symmetric form, 205 formation \mathcal{E} -quadratic formation, 231 stably isomorphic \mathcal{E} -quadratic formation, 231 stably isomorphic \mathcal{E} -quadratic formation, 231 stably \mathcal{F} -abla bility isomorphic \mathcal{E} -quadratic formation, 231 fractional ideal, 34 Franz' Independence Lemma, 91 Fredholm operator, 279 free interior additive invariant, 180 connective algebraic \mathcal{K} -theory functor on \mathcal{C} ATST, 181 exact functor of additive categories, 146 functorial additive invariant, 182 non-connective algebraic \mathcal{K} -theory functor on \mathcal{C} ATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated $\mathcal{C}W$ -complex, 37 of a chain complex, 691 space, 131 fractional ideal, 34 fractional idea	exact C^* -algebra, 492	stably <i>U</i> -based ϵ -quadratic form, 238
exotic sphere, 87 extension central, 130 closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 493 propagation operator, 423 quotient finite decomposition complexity, 493 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form e -quadratic formation, 231 stably U -based e -quadratic formation, 238 trivial e -quadratic formation, 238 trivial e -quadratic formation, 231 stably U -based e -quadratic formation, 231 stably U -	functor, 146	standard hyperbolic ϵ -quadratic form, 211
extension central, 130 closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Hrisang group with respect to \mathcal{F} , 591 Farrell-Hrisang group with respect to \mathcal{F} , 591 Farrell-Hsiang group with respect to \mathcal{F} , 591 Fredholm operator, 279 freed unitary representation, 89 functor on CATST, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupoid core functor, 176 localizing invariant, 182 non-connective algebraic \mathcal{K} -theory functor on CATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated \mathcal{C} -w-complex, 37 of a chain complex, 38 finitely dominated \mathcal{C} -w-complex, 37 of a chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow \mathcal{G} -space admitting strong contracting transfers, 682 form \mathcal{E} -quadratic formation, 231 fredholm operator, 279 freed unitary representation, 89 functor on CATST	excisive, 564	standard hyperbolic ϵ -symmetric form, 205
central, 130 closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group action, 603 \mathcal{F} -amenable group action, 603 \mathcal{F} -amenable group action, 603 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form \mathcal{F} -quadratic formations, 238 trivial \mathcal{E} -quadratic formation, 238 trivial \mathcal{E} -quadratic formation, 231 fractional ideal, 34 free unitary representation, 89 functor additive invariant, 180 connective algebraic \mathcal{E} -theory functor on $CATST$, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176 localizing invariant, 182 non-connective algebraic \mathcal{K} -theory functor on \mathcal{K} -complex, 37 of a chain complex, 38 finitely dominated $\mathcal{C}W$ -complexes, 47 universal, 47 fundamental Lemma of Homological Algebra, 99 functor additive invariant for finitely dominated $\mathcal{C}W$ -complexes, 47 universal, 47 fundamental Lemma of Homological Algebra, 99 functor additive invariant for finitely dominated $\mathcal{C}W$ -complexes, 47 universal, 47 fundamental Lemma of Homological Algebra, 99 functor and difference Lemma, 91 fr	exotic sphere, 87	formation
closed under extensions, 150 external multiplicative structure for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form \mathcal{E} -quadratic formation, 238 trivial \mathcal{E} -quadratic formation, 238 trivial \mathcal{E} -quadratic formation, 231 fractional ideal, 34 Franz' Independence Lemma, 91 Fredholm operator, 279 free unitary representation, 89 functor additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupid core functor, 176 localizing invariant, 182 non-connective algebraic K -theory functor on CATST, 183 of additive categories, 146 finited categories, 146 functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 functor additive categories, 146 finite, 314 finite-dimensional, 314 n -dimension, 314 of dimension n , 314 of dimen	extension	ϵ -quadratic formation, 231
external multiplicative structure for equivariant topological K -theory, 282 from equivariant topological K -theory, 282 from equivariant topological K -theory, 282 from equivariant topological K -theory, 282 fractorizations, 185 family of subgroups, 49 farcell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic formation, 231 fractonal ideal, 34 Franz' Independence Lemma, 91 Fredholm operator, 279 free unitary representation, 89 functor additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176 localiza	central, 130	stably isomorphic ϵ -quadratic formations,
for equivariant topological K -theory, 282 \mathcal{F} -cover, 595 open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Isiang group with respect to \mathcal{F} , 591 Fredholm operator, 279 free unitary representation, 89 functor additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176 localizing invariant, 182 non-connective algebraic K -theory functor on CATST, 183 of additive categories, 146 finitary, 180 groupoid core functor, 176 localization functor	closed under extensions, 150	231
F-cover, 595 open F-cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Haising group with respect to F, 591 Farrell-Jones group, 388 fiber transport, 686 filtered	external multiplicative structure	stably <i>U</i> -based ϵ -quadratic formation, 238
F-cover, 595 open F-cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to F, 591 Farrell-Jones group, 388 fiber transport, 686 filtered U-filtered, 198 category, 65 left U-filtered, 198 right U-filtered, 197 system, 65 finite G-support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW-complex, 37 of a chain complex, 38 finitelly F-amenable group, 603 F-amenable group, 605 finitely F-amenable group, 605 finitely G-chain complex, 38 finitely G-chomology theory, 340 fasque additive category, 147 flow space, 672 flow G-space admitting strong contracting transfers, 682 form ε-quadratic, 209 Franz' Independence Lemma, 91 Fredholm operator, 279 free free unitary representation, 89 functor additive invariant, 180 connective algebraic K-theory functor on CATST, 181 exact functor between stable ∞-categories, 146 finitary, 180 groupoid core functor, 176 localization functor	for equivariant topological K -theory, 282	trivial ϵ -quadratic formation, 231
open \mathcal{F} -cover, 595 factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group action, 605 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form \mathcal{F} -quadratic, 209 free unitary representation, 89 functor additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor between stable ∞ -categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176 functorial additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor of additive categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176 localization functor, 176 localization functor, 176 functivariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 functor		fractional ideal, 34
factorizations, 185 family of subgroups, 49 Farrell-Hsiang group with respect to 𝒯, 591 Farrell-Jones group, 388 fiber transport, 686 filtered 11-filtered, 198 category, 65 left 11-filtered, 198 right 11-filtered, 197 system, 65 finite G-support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a C W-complex, 37 of a chain complex, 37 of a chain complex, 38 finitely F-amenable group, 603 F-amenable group, 603 F-amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G-space admitting strong contracting transfers, 682 form ε-quadratic, 209 free free unitary representation, 89 functor additive invariant, 180 connective algebraic K-theory functor on CATST, 181 exact functor between stable ∞-categories, 146 finitary, 180 groupoid core functor, 176 localization fun	\mathcal{F} -cover, 595	Franz' Independence Lemma, 91
family of subgroups, 49 Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Hones group, 388 fiber transport, 686 filtered	open \mathcal{F} -cover, 595	Fredholm operator, 279
Farrell-Hsiang group with respect to F, 591 Farrell-Jones group, 388 fiber transport, 686 filtered ### ### ### ### ### ### ### ### ### #	factorizations, 185	free
Farrell-Hsiang group with respect to \mathcal{F} , 591 Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 functor additive invariant, 180 connective algebraic K -theory functor on CATST, 181 exact functor of additive categories, 146 finitary, 180 groupoid core functor, 176 localization invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 Fundamental Lemma of Homological Algebra, 99 Fundamental Lemma of Homological Algebra, 99 G-CW-complex, 312 finite, 314 finite-dimension, 314 of dimension ≤ n , 314 of dimension ≤ n , 314 of dimension n , 314 of dimension, 49 geometric, 45 unreduced, 40 G-support, 613 generalized Swan homomorphism, 108 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	family of subgroups, 49	free unitary representation, 89
Farrell-Jones group, 388 fiber transport, 686 filtered \mathcal{U} -filtered, 198 category, 65 left \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form e -quadratic, 209 additive invariant, 180 connective algebraic K -theory functor on CATST, 183 or additive categories, 146 finitary, 180 groupoid core functor, 176 localization functor, 176		functor
fiber transport, 686 filtered		additive invariant, 180
filtered U -filtered, 198 category, 65 left U -filtered, 198 right U -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 ϵ -quadrati		connective algebraic K -theory functor on
category, 65 left \mathcal{U} -filtered, 198 right \mathcal{U} -filtered, 197 system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 177 exact functor of additive categories, 146 finitary, 180 groupoid core functor, 176 localization functo	filtered	CATST, 181
exact functor of additive categories, 146 finitary, 180 groupoid core functor, 176 localization	\mathcal{U} -filtered, 198	exact functor between stable ∞-categories,
right \mathcal{U} -filtered, 197 system, 65 finite	category, 65	177
system, 65 finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form \mathcal{E} -quadratic, 209 groupoid core functor, 176 localization functor, 176 localizing invariant, 182 non-connective algebraic K -theory functor on CATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 314 n -dimension, 314 of dimension n , 314	left \mathcal{U} -filtered, 198	exact functor of additive categories, 146
finite G -support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209	right \mathcal{U} -filtered, 197	finitary, 180
G-support, 614 asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 localizing invariant, 182 non-connective algebraic K -theory functor on CATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 314 of dimension \mathcal{I} and \mathcal{I} an	system, 65	C 1
asymptotic dimension, 492 decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group action, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 non-connective algebraic K -theory functor on CATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 314 finite-dimensional, 314 of dimension $\leq n$, 314 of dimension $\leq n$, 314 of dimension $\leq n$, 314 of finite type, 314 $\leq n$ -domology theory, 340 $\leq n$ -support, 613 generalized Swan homomorphism, 108 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	finite	localization functor, 176
decomposition complexity, 492 propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 on CATST, 183 of additive categories, 146 functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 312 finite-dimensional, 314 of dimension n , 314 of finite type, 314 generalized Swan homomorphism, 108 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	G-support, 614	
propagation operator, 423 quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space admitting strong contracting transfers, 682 for G -quadratic, 209 for additive categories, 146 functorial additive invariant for finitely functorial additive invariant for finitely functorial additive invariant for finitely dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 314 finite-dimensional, 314 of dimension, 314 of dimension n , 314 of dimension n , 314 of dimension n , 314 of finite type, 314 G -homology theory, 340 G -support, 613 generalized Swan homomorphism, 108 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	asymptotic dimension, 492	
quotient finite decomposition complexity, 493 resolution, 150 finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, 100 finite, 314 finite-dimensional, 314 of dimension n , 317 of dimension n , 314 of dimens	decomposition complexity, 492	•
dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 fundamental Lemma of Homological Algebra, of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 e dominated CW -complexes, 47 universal, 47 fundamental class, 207, 220 G Fundamental Lemma of Homological Algebra, 99 finite, 314 finite, 314 finite-dimensional, 314 of dimension $\leq n$, 314 of dimension $\leq n$, 314 of finite type, 314 G -homology theory, 340 G -support, 613 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	propagation operator, 423	•
resolution, 150 universal, 47 fundamental class, 207, 220 of a CW -complex, 37 of a chain complex, 38 psinitely F-amenable group, 603 F-amenable group action, 603 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 universal, 47 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 Fundamental Lemma of Homological Algebra, 99 Fundamental Lemma of Homological Algebra, 99 fundamental class, 207, 220 Fundamental Lemma of Homological Algebra, 99 finite, 314 finite-dimensional, 314 of dimension $\leq n$, 314 of dimension n , 314 of finite type, 314 G-homology theory, 340 G-support, 613 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	quotient finite decomposition complexity,	
finite domination, 702, 704 of a CW -complex, 37 of a chain complex, 38 finitely	493	
of a CW -complex, 37 of a chain complex, 38 finitely \mathcal{F} -amenable group, 603 \mathcal{F} -amenable group action, 603 homotopy \mathcal{F} -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space, 672 flow G -space admitting strong contracting transfers, 682 form ϵ -quadratic, 209 fruit and finite Lemma of Homological Algebra, 99 fundamental Lemma of Homological Algebra, 99 finite Lemma of Homological Algebra, 99 finite Lemma of Homological Algebra, 99 finite Lemma of Homological Algebra, 99 finite, 312 finite, 314 finite-dimensional, 314 finite-dimensional, 314 of dimension n , 314 of dimension n , 314 of finite type, 314 G -homology theory, 340 G -support, 613 generalized Swan homomorphism, 108 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248	resolution, 150	universal, 47
of a chain complex, 38		
finitely F -amenable group, 603 F -amenable group action, 603 homotopy F -amenable group, 605 finitely dominated, 264 chain complex, 691 space, 13 finiteness obstruction, 40 geometric, 45 unreduced, 40 flasque additive category, 147 flow G -space, 672 flow G -space admitting strong contracting transfers, 682 form $ε$ -quadratic, 209 F -amenable group, 603 finite, 314 finite-dimensional, 314 n-dimension, 314 of dimension n , 314 of finite type, 314 G -homology theory, 340 G -support, 613 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 Surgery Exact Sequence, 248		
	•	99
	finitely	
homotopy \mathcal{F} -amenable group, 605 finite-dimensional, 314 finitely dominated, 264 n-dimension, 314 of dimension s 314 space, 13 of dimension s 314 of dimension s 315 dimension s 316 of dimension s 316 of dimension s 317 of dimension s 318 of dimension s 319 of dimension s 319 of dimension s 310 of dimension s 310 of dimension s 314 of		=
finitely dominated, 264 n -dimension, 314 of dimension $\leq n$, 314 space, 13 of dimension n , 314 of finiteness obstruction, 40 geometric, 45 G -homology theory, 340 G -support, 613 generalized Swan homomorphism, 108 geometric flow G -space, 672 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 ϵ -quadratic, 209 Surgery Exact Sequence, 248		
chain complex, 691 of dimension $\leq n$, 314 space, 13 of dimension n , 314 of dimension n , 314 of finiteness obstruction, 40 of finite type, 314 geometric, 45 G-homology theory, 340 G-support, 613 generalized Swan homomorphism, 108 geometric flow G -space, 672 geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, 579 ϵ -quadratic, 209 Surgery Exact Sequence, 248		
space, 13 of dimension n , 314 of finiteness obstruction, 40 of finite type, 314 of finite type, 314 G-homology theory, 340 G-support, 613 generalized Swan homomorphism, 108 geometric flow G -space, G geometric finiteness obstruction, 45 module, 577 realization of an abstract simplicial complex, form ϵ -quadratic, 209 Surgery Exact Sequence, 248		
$\begin{array}{lll} \text{finiteness obstruction, 40} & \text{of finite type, 314} \\ \text{geometric, 45} & G\text{-homology theory, 340} \\ \text{unreduced, 40} & G\text{-support, 613} \\ \text{flasque additive category, 147} & \text{generalized Swan homomorphism, 108} \\ \text{flow space, 672} & \text{geometric} \\ \text{flow G-space, 672} & \text{finiteness obstruction, 45} \\ \text{flow G-space admitting strong contracting} \\ \text{transfers, 682} & \text{module, 577} \\ \text{form} & 579 \\ \hline{\epsilon$-\text{quadratic, 209}} & \text{Surgery Exact Sequence, 248} \\ \end{array}$		
geometric, 45		
unreduced, 40		
$\begin{array}{lll} \text{flasque additive category, 147} & \text{generalized Swan homomorphism, 108} \\ \text{flow space, 672} & \text{geometric} \\ \text{flow G-space, 672} & \text{finiteness obstruction, 45} \\ \text{flow G-space admitting strong contracting} & \text{transfers, 682} & \text{module, 577} \\ \text{form} & & 579 \\ \hline ϵ-quadratic, 209 & \text{Surgery Exact Sequence, 248} \\ \end{array}$		
$\begin{array}{lll} \text{flow space, } 672 & \text{geometric} \\ \text{flow G-space, } 672 & \text{finiteness obstruction, } 45 \\ \text{flow G-space admitting strong contracting} & \text{module, } 577 \\ \text{transfers, } 682 & \text{realization of an abstract simplicial complex,} \\ \text{form} & & 579 \\ \hline ϵ-quadratic, 209 & \text{Surgery Exact Sequence, } 248 \\ \end{array}$		
$\begin{array}{ccc} \text{flow G-space, 672} & \text{finiteness obstruction, 45} \\ \text{flow G-space admitting strong contracting} & \text{module, 577} \\ \text{transfers, 682} & \text{realization of an abstract simplicial complex,} \\ \text{form} & & 579 \\ \hline ϵ-quadratic, 209 & \text{Surgery Exact Sequence, 248} \end{array}$		
$\begin{array}{ccc} \text{flow G-space admitting strong contracting} & \text{module, 577} \\ & \text{transfers, 682} & \text{realization of an abstract simplicial complex,} \\ \text{form} & & 579 \\ & \epsilon\text{-quadratic, 209} & \text{Surgery Exact Sequence, 248} \end{array}$	•	
transfers, 682 realization of an abstract simplicial complex, form 579 $\epsilon\text{-quadratic, 209} \text{Surgery Exact Sequence, 248}$		
form 579 ϵ -quadratic, 209 Surgery Exact Sequence, 248		
ϵ -quadratic, 209 Surgery Exact Sequence, 248		•
	ε-quadratic, 209 ε-symmetric, 205	transfer, 687

Whitehead torsion, 84	symmetric group of permutations of the set
graph product, 554	$\{1, 2, \dots n\}, 27$
Green functor, 362	Thompson's groups, 508
Grothendieck group, 30	transfer \mathcal{F} -reducible, 599
group	virtually cyclic, 15
a-T-menable, 502	virtually cyclic of type I, 392
almost connected topological group, 320	virtually cyclic of type II, 392
almost transfer \mathcal{F} -reducible, 610	virtually finitely generated abelian, 97
alternating group of even permutations of	virtually free group, 97
the set $\{1, 2, \dots, n\}, \frac{27}{27}$	virtually nilpotent, 97
amenable, 501	virtually poly-cyclic, 97
boundary amenable, 492	group ring, 48
CAT(0)-group, 498	twisted, 380
crystallographic of dimension n , 546	groupoid, 350
Dress, 605	connected, 350
Dress-Farrell-Hsiang group over \mathcal{F} , 606	groupoid core functor, 176
Dress-Farrell-Hsiang-Jones group over \mathcal{F} ,	transport groupoid, 350
608	groupoidification, 176
elementary amenable, 501	Gysin sequence, 284
Farrell-Hsiang group with respect to \mathcal{F} , 591	Gysiii sequence, 284
Farrell-Jones group, 388	
finite cyclic group of order n , 27	<i>h</i> -cobordism, 85
finite dihedral group of order $2n$, 27	bounded, 124
finite-dimensional CAT(0)-group, 498	Hattori-Stallings homomorphism, 55
finitely \mathcal{F} -amenable group, 603	Hattori-Stallings rank, 55
finitely homotopy \mathcal{F} -amenable group, 605	Hecke algebra, 468
having property (P), 97	Heisenberg group
having property (RD), 489	three-dimensional, 294
having property (T), 502	three-dimensional discrete, 295
having the Haagerup property, 502	higher signature, 253
having virtually property (P), 97	associated to a homology class, 253
hyperbolic, 322	Hochschild homology, 160
hyperelementary, 393	homology
infinite cyclic group, 27	Borel homology, 346
infinite dihedral group, 27	Bredon homology, 340
infinite special orthogonal group, 114	cellular, 63
	coefficients of an equivariant proper
infinite special unitary group, 114 <i>K</i> -amenable, 420	homology theory extend to a Mackey
lacunary hyperbolic, 496	functor, 359
* **	complex topological <i>K</i> -homology, 278
p-elementary, 400	continuous equivariant homology theory,
p-hyperelementary, 393	444
perfect, 130 Poinceré duality group of dimension v. 264	cyclic homology, 160
Poincaré duality group of dimension n , 264	equivariant homology theory, 344
poly-(P), 97	equivariant homology theory over a group,
poly-cyclic, 97 poly-free, 506	372
poly-Tree, 500 poly-Z, 97	G-homology theory, 340
	Hochschild homology, 160
regular, 155	negative cyclic homology, 160
regular coherent, 155	periodic cyclic homology, 160
sofic, 53	proper equivariant homology theory, 344
strictly F-transfer reducible, 592	
strongly F-transfer reducible, 601	proper G-homology theory, 340
strongly poly-free, 505	real topological <i>KO</i> -homology, 280
strongly transfers reducible over \mathcal{F} , 600	singular, 63

strongly continuous equivariant homology theory, 445	idempotent complete additive category, 148 idempotent completion of an additive category,
topological cyclic homology, 161	148
homomorphism of C^* -algebras, 286	immersion
homotopic, 286	pointed, 214
homotopic	index pairing, 302
α -homotopic maps, 575	induction
ϵ -homotopic maps, 576	for equivariant KK-theory, 303
homotopical Waldhausen category, 185	for equivariant spaces, 344
homotopy	for equivariant topological <i>K</i> -theory, 282
pointed regular homotopy, 214	of C^* -algebras, 303
regular homotopy, 214	of modules with respect to ring homomor-
homotopy action	phisms, 30
homotopy coherent G -action of a group on a	induction structure, 344
space, 600	inductive limit of C*-algebras, 288
homotopy S-action on a space, 678	integral domain, 30
of a finitely presented group on a space, 598	internal multiplicative structure
of a group on a Z-chain complex, 690	for equivariant topological <i>K</i> -theory, 282
of a group on a space, 598	intersection pairing
strong homotopy action of a group on a	for immersions, 214
space, 600	for kernels, 227
homotopy algebraic K-theory, 158	involution
homotopy coherent G -action of a group on a	w-twisted involution on a group ring, 204
space, 600	of rings, 204
homotopy equivalence	isotopic, 135
α -homotopy equivalences, 575	Incohoon modical 66
homotopy fiber, 138	Jacobson radical, 66
homotopy fixed points of an ordinary category with a strict G -action, 736	W. dh 1.1 . 1.4.4
	K-theory mod k , 144
homotopy invariance of higher signatures, 253 homotopy invariant functor, 564	K-theory space
homotopy inverse	of a category with cofibrations and weak
α -homotopy inverse, 575	equivalences, 167
homotopy <i>K</i> -theory functor, 467	of a ring, 139
homotopy representation	of an exact category, 146
free <i>d</i> -dimensional, 106	K-theory spectrum
homotopy sequence	complex topological K-theory, 278
long exact homotopy sequence of a map, 138	non-connective K -theory spectrum of a ring, 147
homotopy sphere, 263	non-connective K -theory spectrum of an
homotopy stabilization of a functor from	
additive categories to spectra, 466	additive category, 147 over groupoids, 353
homotopy theoretic assembly transformation,	real topological K-theory, 280
566	K_0 -group of a ring, 30
hyperbolic	K_1 -group of a ring, 69
group, 322	K_2 -group of a ring, 130
metric space, 322	K_n -group of a ring for negative n , 117
· · · · · · · · · · · · · · · · · · ·	K_n -group of a ring for positive n , 139
ideal	K_n -group of an additive category, 147
fractional, 34	Karoubi filtration, 198
principal fractional ideal, 34	left, 198
principal ideal, 30	right, 197
ideal in a C*-algebra, 287	Kasparov's intersection product, 301
idempotent complete	equivariant, 302
idempotent complete stable ∞-category, 182	Kazhdan's property (T), 502

Kirchberg C^* -algebras, 293	mapping class group, 323, 507
KK-equivalence, 301	mapping cone
KK-theory of Kasparov, 299	of a chain map, 77
equivariant, 302	of a map of spaces, 81
KO-orientation of Spin bordism, 280	mapping cylinder
Kronecker pairing, 207	of a chain map, 77
	of a map of spaces, 81
L-class, 253	marked metric graph, 323
L-group	maximal crossed product of C^* -algebras, 288
decorated quadratic L -groups in even	maximal group C^* -algebra, 288
dimensions, 238	metric
decorated quadratic L-groups in odd	L^1 -metric, 579
dimensions, 239	metric space
projective quadratic L -group, 241	bounded, 727
quadratic L -groups in even dimensions, 211	hyperbolic, 322
quadratic L -groups in odd dimensions, 233	proper, 422
simple, 240	uniformly contractible, 423
L-theory spectrum	with bounded geometry, 423
associated to a ring with decoration $\langle -\infty \rangle$,	metrically proper action, 502
244	minimal homotopy dimension, 331
over groupoids, 353	module
L^1 -metric, 579	Artinian, 52
L^2 -Betti number, 51	geometric, 577
L^2 -eta-invariant, 431	irreducible, 52
L^2 -rho-invariant, 431	simple, 52
labeled CW-complex, 721	stably finitely generated free, 31
labeling, 721	stably U -based, 237
lagrangian, 212	<i>U</i> -based, 237
complementary, 232	modules
sublagrangian, 212	stably isomorphic finitely generated
lattice, 500	projective modules, 64
length function, 488	Morita equivalence, 32
having property (RD), 489	Morphism Additivity, 646
length of a finite group, 333	Mostow rigidity, 261
lens space, 89	
linearization map, 169	N - \mathcal{F} -amenable group action, 603
local finiteness over N, 614	<i>N</i> -transfer space, 592
localizing invariant, 182	Nakayama's Lemma, 66
locally compact	negative cyclic homology, 160
operator, 423	Nil group
locally free class group of a \mathbb{Z} -order, 60	reduced zero-th, 94
	zero-th, 93
Mackey functor, 358	Nil-spectrum
manifold	non-connective, 156
orientable, 221	nilpotent
oriented, 221	endomorphism of a module, 93
w-oriented, 221	norm element of a finite group, 104
manifold parametrized over \mathbb{R}^k , 124	normal bordism, 222
map	normal map, 221
acyclic, 138	of degree one of manifolds with boundary,
α -close maps, 575	235
cellular, 313	of degree one, 221
linearization map, 169	stabilization of a normal map, 222
of degree one, 221	normalizer, 313

normally bordant, 222	Problem Brown's problem about
object of finite length, 151	vcd(G) = dim(EG), 333
object of length $\leq l$, 151	Congruence Subgroup Problem, 104
open \mathcal{F} -cover, 595	Identification of analytic Surgery Exact
operator	Sequences, 476
compact, 287	Identification of transformations from the
finite propagation operator, 423	Surgery Exact Sequence to its analytic
locally compact, 423	counterpart, 476
pseudolocal, 423	Relating the dimension of $\underline{E}G$ and $\underline{E}G$, 334
orbit category, 49	Space Form Problem, 275
F-restricted, 49	Spherical Space Form Problem, 275
order	product
of an open cover, 680	reduced product of spectra, 719
orientable manifold, 221	product structure
orientation	ϵ -product structure on an h-cobordism, 576
of a manifold, 207	projective class group, 30
orientation homomorphism	reduced, 31
of a Poincaré complex, 220	projective quadratic <i>L</i> -group, 241
oriented manifold, 221	projective resolution, 48
outer space, 323	d-dimensional, 49
spine of outer space, 323	finite, 48
erent of their space, the	finite-dimensional, 49
perfect	finitely generated, 49
group, 130	free, 49
radical, 139	proper
periodic cyclic homology, 160	equivariant homology theory, 344
Pimsner-Voiculescu sequences for <i>KK</i> -theory,	G- C *-algebra, 743
302	G-homology theory, 340
plus-construction, 138	G-space, 315
Poincaré duality group of dimension n , 264	map, 124
Poincaré complex	metric space, 422
finite n -dimensional, 220	metrically proper action, 502
simple finite n -dimensional, 235	pseudoisotopic, 135
w-oriented, 221	pseudoisotopy, 135, 163
Poincaré pair	pseudoisotopy spectrum, 164
finite n -dimensional, 234	smooth pseudoisotopy spectrum, 164
simple finite n -dimensional, 235	pseudolocal
Poincaré $\mathbb{Z}\pi$ -chain homotopy equivalence, 220	operator, 423
pointed category, 165	pushout
pointed regular homotopy, 214	cellular, 47
poly-cyclic group, 97	
poly-Z group, 97	Q-construction, 146
Pontrjagin class	quadratic form
rational, 253	stably isomorphic, 212
principal fractional ideal, 34	quadratic refinement, 210
principal ideal domain, 30	Question
principle	Amenability and the passage from $K_0(\mathbb{C}G)$
assembly principle, 561	to $G_0(\mathbb{C}G)$, 413
separation of variables, 522	Amenability and the vanishing of $G_0(\mathbb{C}G)$,
Transitivity Principle, 441	413
Transitivity Principle for equivariant	Is $K_i(C_r^*(\mathbb{Z}^n \rtimes \mathbb{Z}/m))$ torsionfree?, 548
homology, 441	Vanishing of the resolution obstruction in
wait and then flow together, 585	the aspherical case, 267

quotient category, 197	Rothenberg sequence, 242
quotients for additive categories, 197	
	s-cobordism, 85
radical, 66	self-intersection element, 216
perfect, 139	self-torsion, 698
reduced	semisimple
crossed product of C^* -algebras, 288	object, 151
group C*-algebra, 287	ring, 63
K_1 -group of a ring, 75	set of normal maps to a compact manifold, 247
product of spectra, 719	sheering <i>RG</i> -isomorphism, 363
refinement	signature
quadratic, 210	higher, 253
regular coherent	higher signature associated to a homology
regular coherent group, 155	class, 253
regular coherent ring, 155	homotopy invariance of higher signatures,
regular homotopy, 214	253
Reidemeister torsion, 88	of a closed oriented manifold, 207
resolution	of a non-singular symmetric bilinear pairing.
finite, 150	206
projective, 48	simple
restriction	-
	homotopy equivalence, 80
for equivariant KK-theory, 303	L-group, 240
for equivariant topological K-theory, 282	object, 151
retract	simple Poincaré complex, 235
absolute neighborhood retract, 264	simple Poincaré pair, 235
absolute retract, 604	structure, 686
Euclidean retract, 603	simplicial complex
right α -homotopy inverse, 575	abstract simplicial complex, 579
ring	six-term exact sequence of an ideal, 291
Artinian, 52	skeleton, 313
Burnside ring, 362	skeleton of a category, 146
Dedekind ring, 34	small category, 146
directly finite, 53	smash product, 348
group ring, 48	of a space with a spectrum, 348
hereditary, 34	smooth pseudoisotopy spectrum, 164
integral domain, 30	sofic group, 53
local, 65	space
Noetherian, 49	acyclic, 137
obtained by adjoining a unit, 102	C-space, 348
of integers, 35	finitely dominated, 13
principal ideal domain, 30	K-theory space of a category with
regular, 49	cofibrations and weak equivalences, 167
regular coherent, 155	K-theory space of a ring, 139
semihereditary, 97	K-theory space of an exact category, 146
semilocal, 66	N-transfer space, 592
semisimple, 63	of parametrized h -cobordisms, 173
stably finite, 53	of stable parametrized h -cobordisms, 173
Swan ring, 363	Space Form Problem, 275
twisted group ring, 380	spectrum, 348
with involution, 204	Ω-spectrum, 348
Rips complex	complex topological K-theory spectrum,
of a group, 322	278
of a metric space, 423	homotopy groups of a spectrum, 348
Roe algebra, 423	map of spectra, 348

non-connective K -theory spectrum of an	surgery kernel, 225
additive category, 147	surgery obstruction
non-connective K -theory spectrum of a ring,	even-dimensional, 229
147	for manifolds with boundary, 236
of a commutative ring, 66	for manifolds with boundary and simple
real topological K-theory spectrum, 280	homotopy equivalences, 240
sphere spectrum, 176	in odd dimensions, 233
structure maps of a spectrum, 348	Surgery Program, 88
weak equivalence of spectra, 348	suspension, 77
sphere, 284	of a C^* -algebra, 293
sphere spectrum, 176	Swan homomorphism, 105
Spherical Space Form Problem, 275	generalized, 108
spine of outer space, 323	Swan ring, 363
split Verdier quotient, 179	A-theoretic, 606
split Verdier square, 179	system
stably	directed, 65
stably isomorphic quadratic forms, 212	filtered, 65
finite ring, 53	
stably finitely generated free module, 31	Teichmüller space, 323
stably isomorphic finitely generated	tensor product of C^* -algebras
projective modules, 64	maximal, 288
stably isomorphic ϵ -quadratic formations,	minimal, 288
231	spatial, 288
Steinberg group, 130	Theorem
<i>n</i> -th Steinberg group, 129	A criterion for 1-dimensional models for
Steinberg symbol, 133	<u>E</u> G, 331
strategy	A-theory is a homotopy-invariant functor,
Control-Strategy, 580	169
strictly \mathcal{F} -transfer reducible group, 592	Actions on CAT(0)-spaces, 321
strong	Actions on simply connected non-positively
category with G-support, 644	curved manifolds, 320
contracting transfers, 682	Actions on trees, 321
homotopy action of a group on a space, 600	Additivity Theorem for categories with
strongly	cofibrations and weak equivalences, 173
\mathcal{F} -transfer reducible, 600	Additivity Theorem for exact categories, 150
strongly continuous equivariant homology theory, 445	Algebraic <i>L</i> -theory of $\mathbb{Z}G$ for finite groups, 274
transfer \mathcal{F} -reducible, 601	Algebraic and topological K -theory mod k
transfers reducible over \mathcal{F} , 600	for \mathbb{R} and \mathbb{C} , 145
structure set, 246	Algebraic K -theory and colimits over
simple, 245	directed sets, 141
subgroup category, 50	Algebraic K -theory and finite products, 140
\mathcal{F} -restricted, 50	Algebraic K -theory mod k of algebraically
support	closed fields, 144
G-support, 613	Algebraic K-theory of finite fields, 143
of a geometric module, 577	Algebraic Thin <i>h</i> -Cobordism Theorem, 579
of morphisms of geometric module, 577	α -Approximation Theorem, 575
support function, 613	Aspherical closed manifolds with exotic
Surgery Exact Sequence	fundamental groups, 259
algebraic, 251	Basic properties of Whitehead torsion, 79
analytic, 476	Bass-Heller-Swan decomposition
for the PL category, 250	for middle and lower K-theory, 118
for the topological category, 250	Bass-Heller-Swan decomposition for
geometric, 248	$Wh(G \times \mathbb{Z}), 95$

Bass-Heller-Swan decomposition for K_1 for regular rings, 97 Bass-Heller-Swan decomposition for algebraic K-theory, 141 Bass-Heller-Swan decomposition for homotopy K-theory, 467 Bass-Heller-Swan decomposition for K_1 , 95 Bass-Heller-Swan decomposition for lower and middle K-theory for regular rings, Bijectivity of the L-theoretic assembly map from FIN to VCY after inverting 2, 400 Bijectivity of the assembly map for topological cyclic homology for finite groups and the family of cyclic subgroups, 465 Bökstedt-Hsiang-Madsen Theorem, 509 Bounded h-Cobordism Theorem, 125 Brown's Problem has a negative answer in general, 333 Characterization of Dedekind domains, 34 Cocompletion Theorem for the topological complex K-homology, 285 Comparing functors from CATST to Sp and $Sp_{>0}$, 182 Completion Theorem for complex and real 510 K-theory, 285 Computation of the topological *K*-theory of $\mathbb{Z}^n \rtimes \mathbb{Z}/m$ for a free conjugation action, Connectivity of the linearization map, 169 Constructing G-homology theories using spectra, 349 Constructing equivariant homology theories over a group using spectra, 373 Constructing equivariant homology theories using spectra, 350 Criteria for the rational vanishing of middle and lower K-theory of integral group ring, 519 Detection Result for $\mathbb Q$ and $\mathbb C$ as coefficients, 161 Devissage, 151 Diffeomorphism classification of lens spaces, 90 Dimension of EG for elementary amenable groups of finite Hirsch length, 334 Dimension of EG and extension, 332 Dimension of \overline{EG} for a discrete subgroup Gof an almost connected Lie group, 332 Dimension of $\underline{E}G$ for countable elementary

amenable groups of finite Hirsch length,

332

Dimensions of $\underline{E}G$ and $\underline{E}G$ for groups acting on CAT(0)-spaces, 335 Dirac-dual Dirac method, 744 Dirichlet Unit Theorem, 75 Discrete subgroups of almost connected Lie groups, 320 Down-up formula, 689 Dress-Farrell-Hsiang-Jones groups and the K-theoretic Farrell-Jones Conjecture with finite wreath products, 609 Dress-Farrell-Hsiang-Jones groups and the K-theoretic Farrell-Jones Conjecture, Dual of the Green-Julg Theorem, 304 Equivariant Cellular Approximation theorem, 315 Equivariant Chern character for equivariant complex K-homology, 305 Equivariant homology theories associated to right exact Γ-∞-categories, 190 Equivariant Whitehead Theorem, 317 Estimate on $\dim(EG)$ in terms of vcd(G), Eventual injectivity of the rational K-theoretic assembly map for $R = \mathbb{Z}$, Every CW-complex occurs up to homotopy as quotient of a classifying space for proper group actions, 337 Exact sequence of a two-sided ideal for middle K-theory, 102Exact sequence of two-sided ideal for K-theory in degree ≤ 2 , 131 Exotic aspherical closed manifolds with hyperbolic fundamental group, 258 Exotic universal coverings of aspherical closed manifolds, 258 External Künneth Theorem for complex K-theory, 283 Farrell-Jones Conjecture for torsionfree hyperbolic groups for K-theory, 542 Finite groups with vanishing Wh(G) or $SK_1(\mathbb{Z}G)$, 112 Finite groups with vanishing $\widetilde{K}_0(\mathbb{Z}G)$, 62 Finite-dimensional models for EG for discrete subgroup of $GL_n(\mathbb{R})$, 336 Finitely \mathcal{F} -amenable actions and the Farrell-Jones Conjecture, 603 Finiteness conditions for BG, 329 Fixed point free smooth actions of finite groups on disks, 606

Flow estimate in the hyperbolic case, 680

Flow estimates in the CAT(0)-case, 679

Fundamental exact sequences for groups Injectivity of the Farrell-Jones assembly satisfying conditions (M) and (NM), 530 map for FIN for subgroups of almost Fundamental Theorem of K-theory in connected Lie groups, 493 dimension 1, 96 K- and L-theory spectra over groupoids, Geometric and algebraic Whitehead groups, 353 K-and L-groups of Fuchsian groups, 542 Grothendieck decomposition for G_0 and G_1 , K-theory and directed colimits, 153 K-theory and Verdier quotients, 182 96 $K_0(R)$ of local rings, 65 Group completion, 180 Groups in AC(VSOLV) satisfy the Full $K_0(RG)$ for finite G and an Artinian ring Farrell-Jones Conjecture, 604 R.62 $\widetilde{K}_0(RG)$ is finite for finite G and R the ring h-Cobordism theorem, 86 Hilbert Basis Theorem, 97 of integers in an algebraic number field, Homotopy characterization of $E_{\mathcal{F}}(G)$, 318 $K_1(B)$ of a commutative Banach algebra, Homotopy classification of lens spaces, 90 Homotopy groups of $\mathbf{Wh}(BG)$ of a $K_1(B)$ of a commutative C^* -algebra C(X), torsionfree hyperbolic group G, 172 Homotopy groups of Diff(M) rationally for $K_1(F)$ of skew-fields, 70 closed aspherical M, 27 $K_1(R) = R^{\times}$ for commutative rings with Homotopy groups of Top(M) rationally for Euclidean algorithm, 74 closed aspherical M, 271 $K_1(R)$ equals GL(R)/[GL(R), GL(R)], Homotopy groups of $\mathsf{Top}(M)$) for closed aspherical M with hyperbolic $K_2(R)$ and universal central extensions of fundamental group, 273 E(R), 130 Homotopy groups of Wh(BG) and $\mathcal{P}(BG)$ Künneth Theorem for KK-theory, 302 rationally for torsionfree G, 171 Homotopy groups of Wh^{D1FF}(BG) and $\mathcal{P}^{\text{D1FF}}(BG)$ rationally for torsionfree Künneth Theorem for finite CW-complexes for topological complex K-cohomology, G, 172Homotopy Invariance of $\rho^{(2)}(M)$, 432 Künneth Theorem for topological K-theory of C^* -algebras, 293 Hyperbolic groups with Čech-homology spheres as boundary, 268 Karoubi's Conjecture, 306 L-groups of the integers in dimension 4n, Hyperbolic groups with spheres as boundary, 268 Hyperelementary Induction, 393 L-groups of the integers in dimension 4n + 2, 213Identification of non-connective K-theory L-theory and topological K-theory of for additive categories in the classical complex C^* -algebras, 307 setting and in the setting of higher Localization, 152 categories, 184 Localization Theorem for equivariant Identifying the finiteness obstruction with its geometric counterpart, 46 topological complex K-theory, 285 Long and thin covers, 682 Immersions and Bundle Monomorphisms, Long exact sequence of a two-sided ideal for 226 higher algebraic K-theory, 139 Independence of decorations, 242 Low-dimensional models for $\underline{E}G$ and $\underline{E}G$, Inheritance properties of the Meta-Isomorphism Conjecture for functors from spaces to spectra with coefficients, Lower and middle K-theory of the integral group ring of $SL_3(\mathbb{Z})$, 554 Inheritance properties of the Baum-Connes Mayer-Vietoris sequence for K-theory in degree ≤ 2 of a pullback of rings, 131 Conjecture with coefficients, 424 Inheritance properties of the Full Mayer-Vietoris sequence for middle K-theory of a pullback of rings, 99 Farrell-Jones Conjecture, 388 Injectivity of the Farrell-Jones assembly Mayer-Vietoris sequence of an amalgamated map for FIN for linear groups, 494 free product for algebraic K-theory, 156

Mayer-Vietoris sequence of an amalgamated	Rational computation of topological
free product for homotopy <i>K</i> -theory, 158	K-theory, 521
Models for $\underline{E}G$ of finite type, 331	Rational computations of $K_n(RG)$ for
Morita equivalence for $K_0(R)$, 32	regular R, 519
Morita equivalence for $K_1(R)$, 71	Rational injectivity of $\mathbb{Z} \otimes_{\mathbb{Z}G} Wh(H) \rightarrow$
Morita equivalence for algebraic K -theory,	Wh(G) for normal finite $H \subseteq G$, 515
140	Rationally injectivity of the colimit map
Negative K-theory of RG for a finite	for finite subgroups for the Whitehead
group G and a Dedekind domain of	group, 510
characteristic zero R , 126	Realizability of the surgery obstruction, 246
$NK_n(R)$ is trivial or infinitely generated for	Realization Theorem, 43
$n \ge 1, 142$ $NK_n(R)[1/N]$ vanishes for characteristic	Reducing the family of subgroups for the Baum-Connes Conjecture, 426
N, 142	Reduction to the family $\mathcal{F}IN$ for alge-
Noetherian group rings, 97	braic K-theory with regular rings as
Non-connective <i>K</i> -theory and idempotent	coefficients, 395
completion, 149	Reductions to families contained in $\mathcal{F}IN$
Non-triangulable aspherical closed	for algebraic K -theory with rings as
manifolds, 258	coefficients, 395
Operator theoretic model, 320	Reflection group trick, 514
<i>p</i> -elementary induction for $NK_n(RG)$, 142	Regular group rings, 97
Passage from $\mathcal{F}IN$ to $\mathcal{V}C\mathcal{Y}_I$ for L -theory,	Relating the K-theory of $\mathcal{D}^G(X)$ and \mathcal{D}_0^G ,
400	652
Passage from \mathcal{HE}_{I} to \mathcal{VCY} for K -theory	Relative Whitehead Lemma, 103
and additive G -categories as coefficients,	Resolution Theorem, 150
394	Rim's Theorem, 60
Passage from \mathcal{VCY}_I to \mathcal{VCY} for K -theory,	Rips complex, 322
394	s-Cobordism Theorem, 85
Passage from EG to EG , 325, 328	Self-intersections and embeddings, 218
Poincaré duality groups and aspherical	Shaneson splitting, 243
compact homology ANR-manifolds, 266	Signature Theorem, 254
Product decompositions of aspherical closed	Simple surgery obstruction for manifolds
manifolds, 270	with boundary, 241
Properties of Funfloc (CATST, Sp), 731	$SK_1(G) = tors(Wh(G)), 112$
Properties of $\widetilde{\mathbf{H}}^G(-; F_C)$, 726	Slice Theorem for G - CW -complexes, 314
Properties of the finiteness obstruction, 40	Split Injectivity of the assembly map
Properties of the plus-construction, 138	appearing in the <i>L</i> -theoretic Farrell Jones
Properties of the signature of oriented	Conjecture with coefficients in the ring
compact manifolds, 207	\mathbb{Z} for fundamental groups of complete
Pseudoisotopy is a homotopy-invariant	Riemannian manifolds with non-positive
functor, 165 Pational algebraic K theory of ring of	sectional curvature, 492
Rational algebraic K-theory of ring of integers of number fields 143	Split Injectivity of the assembly map ap- pearing in the Baum-Connes Conjecture
integers of number fields, 143 Rational computation of $K_*(C_r^*(G))$ for a	for fundamental groups of complete
virtually \mathbb{Z}^n -group G , 528	Riemannian manifolds with nonpositive
Rational computation of $K_*(C_r^*(G))$ for a	sectional curvature, 490
virtually \mathbb{Z}^n -group G in the split case,	Split injectivity of the assembly map appear-
528	ing in the Baum-Connes Conjecture with
Rational computation of algebraic <i>L</i> -theory,	coefficient, 490
521	Splitting the K -theoretic assembly map from
Rational computation of the source of	$\mathcal{F}IN$ to \mathcal{VCY} , 390
the assembly maps appearing in	Splitting the <i>L</i> -theoretic assembly map from
the Farrell-Jones and Baum-Connes	$\mathcal{F}IN$ to $\mathcal{V}C\mathcal{Y}$, 391
Conjecture, 367	Stable Cannon Conjecture, 269

Status of the Full Farrell-Jones Conjecture, 481 Status of the Baum-Conjecture with coefficients, 486

Status of the Baum-Connes Conjecture, 489 Status of the Coarse Baum-Connes Conjecture, 490

Status of the Farrell-Jones Conjecture for homotopy *K*-theory, 484

Strategy Theorem, 714

Strictly transfer \mathcal{F} -reducible groups and the Farrell-Jones Conjecture, 593

Strongly transfer \mathcal{F} -reducible groups and the Farrell-Jones Conjecture, 601

Strongly transfer \mathcal{VCY} -reducible groups and the Full Farrell-Jones Conjecture, 602

Surgery Exact Sequence, 248

Surgery Exact Sequence for the PL and the topological category, 250

Surgery Obstruction for Manifolds with Boundary, 236

Surgery obstruction in even dimensions, 229 Surgery obstruction in odd dimensions, 234 Swan's Theorem, 36

The *K*-theoretic Farrell-Jones Conjecture implies the Farrell-Jones Conjecture for homotopy *K*-theory, 477

The p-chain spectral sequence, 356

The algebraic K-groups of $\mathcal{D}^G(X, A)$ yield a G-homology theory, 623

The algebraic K-groups of $\mathcal{D}_0^G(X,A)$ yield a G-homology theory, 663

The algebraic *K*-theory and *L*-theory of right-angled Artin groups, 555

The Bass Conjecture for integral domains and elements of finite order, 59

The Baum-Connes Conjecture implies the Novikov Conjecture, 422

The Baum-Connes Conjecture implies the Stable Gromov-Lawson-Rosenberg Conjecture, 429

The Baum-Connes Conjecture with coefficients for proper G-C*-algebras,

The class group of a ring of integers is finite,

The dimension of EG, 334

The equivariant Atiyah-Hirzebruch spectral sequence, 355

The equivariant Chern character, 360

The Farrell-Jones and the Borel Conjecture,

The Farrell-Jones Conjecture and the Bass Conjecture for fields of characteristic zero, 57

The Farrell-Jones Conjecture and the Bass Conjecture for integral domains, 58

The Farrell-Jones Conjecture for the algebraic *K*-theory of Hecke algebras, 469

The Farrell-Jones Conjecture holds for topological Hochschild homology, 464

The Farrell-Jones Conjecture with coefficients in additive *G*-categories (with involutions) is automatically fibered, 438

The finiteness obstruction is the universal functorial additive invariant, 48

The Full Farrell-Jones Conjecture and relatively hyperbolic groups, 497

The Full Farrell-Jones Conjecture for normally poly-free groups, 506

The Full Farrell-Jones Conjecture for strongly poly-surface groups, 505

The Full Farrell-Jones Conjecture implies all other variants, 405

The generalized Swan homomorphism, 108

The geometric finiteness obstruction, 46The middle and lower K-theory of RG for

finite G and Artinian R, 123

The raduced prejective class group and the

The reduced projective class group and the class group of Dedekind domains, 34

The set of normal maps and G/O, G/PL and G/TOP, 250

The stable parametrized h-cobordism theorem, 173

The strong Novikov Conjecture implies the Zero-in-the-Spectrum Conjecture, 298

The topological *K*-theory of right-angled Artin groups, 555

The topological *K*-theory of right-angled Coxeter groups, 556

The weak homotopy fibration sequence of a Karoubi filtration, 199

Thin h-Cobordism Theorem, 576

TOD-sequence, 621

Topological K-theory of the C^* -algebra of finite groups, 308

Topological equivariant *K*-theory of $E_{\mathcal{F}TN}(SL_3(\mathbb{Z}))$, 554

Topological invariance of rational Pontrjagin classes, 254

Topological invariance of Whitehead torsion, 80

Torsion and free homotopy representations,

Transfer criterion for the Farrell-Jones Conjecture, 715	real topological <i>K</i> -cohomology of spaces, 280
Transfer reducible groups and the	real topological K -theory of spaces, 280
Farrell-Jones Conjecture, 599	real topological KO-homology of spaces,
Transitivity Principle, 441	280
Transitivity Principle for equivariant	twisted topological K-theory, 281
homology, 441	topologically amenable group action, 491
Universal Coefficient Theorem for	topologically rigid, 259
KK-theory, 302	total surgery obstruction, 251
Universal Coefficient Theorem for	trace
equivariant complex K-theory, 283	cyclotomic, 161
Universal Property of assembly, 565	standard trace of $C_r^*(G)$, 296
Vanishing criterion of $NK_n(RG)$ for finite	transfer
groups, 142	geometric transfer, 687
Vanishing of $NK_n(RK, \phi)$, 158	transport groupoid, 350
Vanishing of $NK_n(\mathbb{Z}[G \times \mathbb{Z}^k])$ for $n \le 1$,	tree, 321
$k \ge 0$ and finite G of squarefree order,	twisted group ring, 380
142	two-out-of-six property, 185
Vanishing of the odd-dimensional <i>L</i> -groups	type FP
of the ring of integers, 233	for groups, 264
Vanishing results for $D(\mathbb{Z}G)$, 61	type FP_n
Vanishing of SK_1 of ring of integers in an	for groups, 329
algebraic number field, 75	for modules, 329
Waldhausen's cartesian squares for	type FP_{∞}
non-connective algebraic K -theory, 155	for groups, 329
Wang sequence associated to an HNN-	for modules, 329
extension for algebraic K-theory,	
157	\mathcal{U} -controlled object, 723
Wang sequence associated to an HNN-	\mathcal{U} -filtered, 198
extension for homotopy K -theory,	left \mathcal{U} -filtered, 198
159	right \mathcal{U} -filtered, 197
Whitehead torsion and simple homotopy	U-simple, 238
equivalences, 82	<i>U</i> -thickening, 724
Whitney's Approximation Theorem, 222	U-torsion
Thom class, 284	of a contractible finite U -stably based chain
Thom isomorphism, 284	complex, 237
topological cyclic homology, 161	of a stable isomorphism of stably U -based
topological K-theory	modules, 237
K -homology of a C^* -algebra, 302	uniform embedding in a Hilbert space, 490
complex topological K-cohomology of	uniformly contractible metric spaces, 423
spaces, 277	unit
complex topological <i>K</i> -homology of spaces,	disk, 89
278	sphere, 89
complex topological K -theory of spaces,	universal additive invariant for finitely generated
277	
equivariant complex topological K -	projective <i>R</i> -modules, 30 central extension, 130
homology of spaces, 304	determinant for automorphisms of finitely
equivariant complex topological K -	generated projective R -modules, 70
homology of spaces with compact	dimension function for finitely generated
support, 304	projective <i>R</i> -modules, 30
equivariant real topological K-homology of	functorial additive invariant for finitely
spaces, 305	dominated CW-complexes, 47
of C^* -algebras, 289	G-CW-complex for proper G-actions, 318

	W. 1 212
77 1' (170	Weyl group, 313
Verdier quotient, 179	Whitehead group, 76
split Verdier quotient, 179	generalized, 76
Verdier square	higher, 239
split Verdier square, 179	second, 134
virtual	Whitehead torsion
cohomological dimension, 331	of a chain homotopy equivalence, 78
virtually	geometric, 84
(P) group, 97	of a homotopy equivalence of finite
finitely generated abelian group, 97	CW-complexes, 78
nilpotent group, 97	of an h-cobordism, 85
poly-cyclic group, 97	width, 696
virtually free, 97	function, 695
•	of a bounded chain complex, 699
w-orientation, 221	of chain homotopy of bounded chain
w-oriented manifold, 221	complexes, 699
w-oriented Poincaré complex, 221	of chain map of bounded chain complexes,
weak	699
weak G -homotopy equivalence, 317	width function, 695
homotopy types, 176	trivial on objects, 696
weak equivalence of spectra, 348	wreath product, 112
weak homotopy equivalence, 317	
Weak Z-set condition, 595	Yoneda embedding, 176
weakly	
weakly excisive, 564	\mathbb{Z} -order, 60
weakly homotopy invariant functor, 564	zero-object, 165