

Nazaïkinskii, V. E.; Savin, A. Yu.; Sternin, B. Yu.

On the index of nonlocal elliptic operators. (English. Russian original) Zbl 1160.58010

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The authors study general nonlocal elliptic (pseudodifferential) operators induced by isometries of the base manifold. Analytic invariants, Bott periodicity and others related with the index of considered nonlocal elliptic operators are studied.

Reviewer: **Petru A. Cojuhari (Kraków)**

MSC:

- 58J20** Index theory and related fixed-point theorems on manifolds
- 35S05** Pseudodifferential operators as generalizations of partial differential operators
- 46L05** General theory of C^* -algebras
- 47G30** Pseudodifferential operators
- 58J40** Pseudodifferential and Fourier integral operators on manifolds

Cited in 1 Document

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References:

- [1] A. Connes, *Noncommutative Geometry* (Academic, San Diego, 1994).
- [2] A. Connes and G. Landi, *Commun. Math. Phys.* 221(1), 141–159 (2001). · [Zbl 0997.81045](#) · [doi:10.1007/PL00005571](#)
- [3] A. Antonevich and A. Lebedev, *Functional-Differential Equations* (Longman, Harlow, 1994, 1998), Vols. 1, 2. · [Zbl 0799.34001](#)
- [4] L. B. Schweitzer, *Int. J. Math.* 4(2), 289–317 (1993). · [Zbl 0804.46081](#) · [doi:10.1142/S0129167X93000157](#)
- [5] Yu. Egorov and D.-W. Schulze, *Pseudo-Differential Operators, Singularities, Applications* (Birkhäuser, Boston, 1997). · [Zbl 0877.35141](#)
- [6] G. G. Kasparov, *Itogi Nauki Tekh., Ser.: Sovr. Probl. Mat. Noveishie Rezul'taty* 27, 3–41 (1985).
- [7] A. S. Mishchenko and A. T. Fomenko, *Izv. Akad. Nauk SSSR, Ser. Mat.* 43(4), 831–859 (1979).
- [8] M. F. Atiyah and G. B. Segal, *Ann. Math.* 87, 531–545 (1968). · [Zbl 0164.24201](#) · [doi:10.2307/1970716](#)
- [9] M. F. Atiyah and I. M. Singer, *Ann. Math.* 87, 546–604 (1968). · [Zbl 0164.24301](#) · [doi:10.2307/1970717](#)
- [10] P. Baum and A. Connes, in *A Fête of Topology* (Academic, Boston, 1988), pp. 163–232.

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