MR1183404 (95b:55021) 55U99 (11F20 57R20)

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Cocycles d'Euler et de Maslov. (French) [Euler and Maslov cocycles]

Math. Ann. **294** (1992), *no. 2,* 235–265.

This elegant paper takes its inspiration partly from one by M. F. Atiyah [Math. Ann. **278** (1987), no. 1-4, 335–380; MR0909232 (89h:58177)], in which a diverse set of numerical functions on $\mathrm{SL}_2(\mathbf{Z})$ were unified. There is an analogy between the Dedekind η-function of that paper, the defect of the Hirzebruch signature formula, and a function due to Rademacher, and the authors exploit this to study these invariants and others by means of bounded cohomology 2-cocycles. The strategy is to show that the coboundary of the functions of interest is a bounded 2-cocycle and that the bounded cohomology class obtained is unique for a uniformly perfect group like SL_2 or Sp_{2n}.

Reviewed by *V. P. Snaith*