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Regularized determinants and conformally invariant operators

Abstract. In this talk I will give an overview of some geometric and analytic issues related to the regularized determinant of an elliptic operator. I will begin with a quick overview of the work of Osgood-Phillips-Sarnak on the determinant of the laplacian for surfaces, then move to four dimensions, where the starting point is a formula of Branson-Orsted for conformal variations of the determinant. I will talk about a question posed by Connes concerning the determinant of the Paneitz operator and the half-torsion, and describe some variational properties, including multiplicity results.
