

Weyl formulae and concentration of eigenfunctions for singular Riemannian metrics with application to acoustic modes in gas giants

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We prove eigenvalue asymptotics of the Laplace-Beltrami operator for certain singular Riemannian metrics on Riemannian manifolds with boundary. We also describe the rate and profile at which eigenfunctions concentrate at the boundary. The model we consider is motivated by the study of propagation of soundwaves in gas planets. This is based joint work with Yves Colin de Verdière, Maarten de Hoop and Emmanuel Trélat and joint work with Larry Read.