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The Steklov spectrum of cuboids

Almost nothing is known in general about the Steklov spectrum of domains or manifolds with singularities on the boundary. In this joint work with A. Girouard, I. Polterovich and A. Savo, we use right cuboids as a model for such domains and obtain various spectral properties: two terms spectral asymptotics, characterisation of the eigenfunctions and scarring sequences, bottom of the spectrum behaviour and shape optimisation for the first eigenvalue. I will formulate more precisely those results and I will make some remarks as to how they would help us understand the general spectral properties of domains with singular boundaries.