

Eigenvalue bounds for the mixed Steklov problem

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July 20, 2020

There have been many developments on Steklov eigenvalue bounds over the last few years. We will discuss how some of these bounds can be extended and improved for the mixed Steklov problem, in particular, for the Steklov-Neumann problem. These bounds include Hersch-Payne-Schiffer inequality and Weinstock inequality. The Steklov-Neuman eigenvalues problem naturally appears when we study the Steklov problem on Riemannian orbifolds, and we also consider our results in this setting. The talk is mainly based on joint work with T. Arias-Marco, E. Dryden, C. Gordon, A. Ray and E. Stanhope.