Sloshing, Steklov and corners

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The sloshing problem is a Steklov type eigenvalue problem describing small oscillations of an ideal fluid. We will give an overview of some latest advances in the study of Steklov and sloshing spectral asymptotics, highlighting the effects arising from corners, which appear naturally in the context of sloshing. In particular, we will outline an approach towards proving the conjectures posed by Fox and Kuttler back in 1983 on the asymptotics of sloshing frequencies in two dimensions. The talk is based on a joint work in progress with M. Levitin, L. Parnovski and D. Sher.