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Title : Corner scattering and data-driven shape identification problems

Abstract: Direct and inverse corner scattering problems have attracted a lot of attention over the last twenty years. In this talk I will review the research questions and recent progress for time-harmonic acoustic scattering from corners. In particular, it will be shown that the presence of a corner point helps for shape identification due to the singularity of the wave fields. Numerically, a data-driven inversion scheme is proposed for the detection of polygonal or polyhedral scatterers.