

**Plasmonic Resonances and Cloaking in Optics and Elasticity**

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This talk is mainly concerned with the anomalous localized resonances and invisibility cloaking induced by plasmon material structures in optics and linear elasticity. The speaker shall discuss their recent research progress on novel plasmon structures that can induce the anomalous localized resonances and cloaking in both quasistatic regime and finite frequency regime without the quasistatic approximation. The study is based on combination of variational approach and spectral approach for the Neumann-Poincare operators.