

Seminar of the Work Group
Nonlinear Partial Differential Equations
SS 2021

Speaker: Dr. Zoïa Moitier
April 23, 2021, 14:00 - 15:30
Zoom Link:
Meeting ID:

Localized wave in transparent optical cavities

Abstract

In this talk, we are interested in scattering resonances of two-dimensional transparent optical cavities. Transparent optical cavities may refer to classic micro-cavities (dielectric material), or exotic nano-cavities made of a negative-index metamaterials (involving one negative optical parameter). Such cavities can exhibit resonances that are highly oscillatory localized waves along the boundary of the cavity, called whispering gallery modes for the classical cavities and surface plasmons for the exotic cavities. This type of waves have great practical interest but are hard to compute and can cause numerical instabilities when they can be excited. This instabilities can typically be observe when solving scattering problems. We have characterize those localized waves through asymptotic analysis and gaining insight on their properties.