Mathematics Colloquium

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Monday, March 2, 2020
Time: 4:00 p.m.
Location: Weber 223

Title: Mathematical analysis and finite element simulation of invisibility cloaks with metamaterials

Abstract: In June 23, 2006's issue of Science magazine, Pendry et al and Leonhardt independently published their papers on electromagnetic cloaking. Since then, there is a growing interest in using metamaterials to design invisibility cloaks. In this talk, I will discuss some time-domain cloaking models we studied in recent years. Well-posedness study and time-domain finite element method for these models will be presented. Finally, I will show some numerical
simulations of invisibility cloaks and other interest applications such as optical black holes. I will conclude the talk with some open issues.

Host: James Liu

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