



*Institute of Mathematical Research
Department of Mathematics*

COLLOQUIUM

Invisibility cloaks: mathematical and numerical analysis, and simulations

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Abstract

In the June 23, 2006's issue of Science magazine, Pendry et al and Leonhardt independently published their papers on electromagnetic cloaking. In Nov. 10, 2006's Science magazine, Pendry et al demonstrated the first practical realization of such a cloak with the use of artificially constructed metamaterials. Since then, there is a growing interest in using metamaterials to design invisibility cloaks. In this talk, I will first give a brief introduction to invisibility cloaks with metamaterials, then I will focus on some time-domain cloaking models. Well-posedness study and time-domain finite element method for these models will be presented. Finally, I will show some numerical simulations of frequency-domain and time-domain cloaking. I will conclude the talk with some open issues.

Date: June 1, 2017 (Thursday)

Time: 10:30 – 11:30am

Venue: Room 210, Run Run Shaw Bldg., HKU