



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

**Seminar
On**

**L2-projected FEM for singular solution
in Maxwell's equations**

by

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Abstract

In this talk, we present an L_2 projected finite element method for solving Maxwell's equations with singular solutions. Whenever Maxwell's equation has a singular solution in H^r for some $r < 1$, the C_0 finite element method gives incorrect approximations in the well-known Plain Regularization formulation. Singular solutions are typically due to nonsmooth domains with reentrant corners and/or edges. In the L_2 projected method, with suitable L_2 projectors introduced in front of curl and divergence operators, correct and good C_0 finite element solutions can be produced for singular solutions. A numerical experiment is also presented.

Date : 14 January, 2009 (Wednesday)
Time : 4:00 – 5:00 p.m.
**Venue : Departmental Conference Room HJ610
The Hong Kong Polytechnic University**

***** ALL ARE WELCOME *****