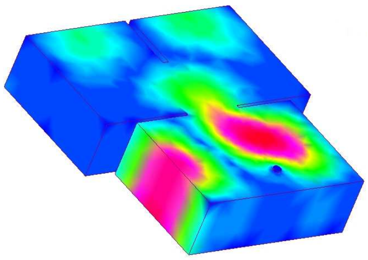
McGill Computational Science and Engineering Seminar

Friday March 31st at 14:00 in Burnside Hall room 1205



Finite Element Methods in Microwave Engineering

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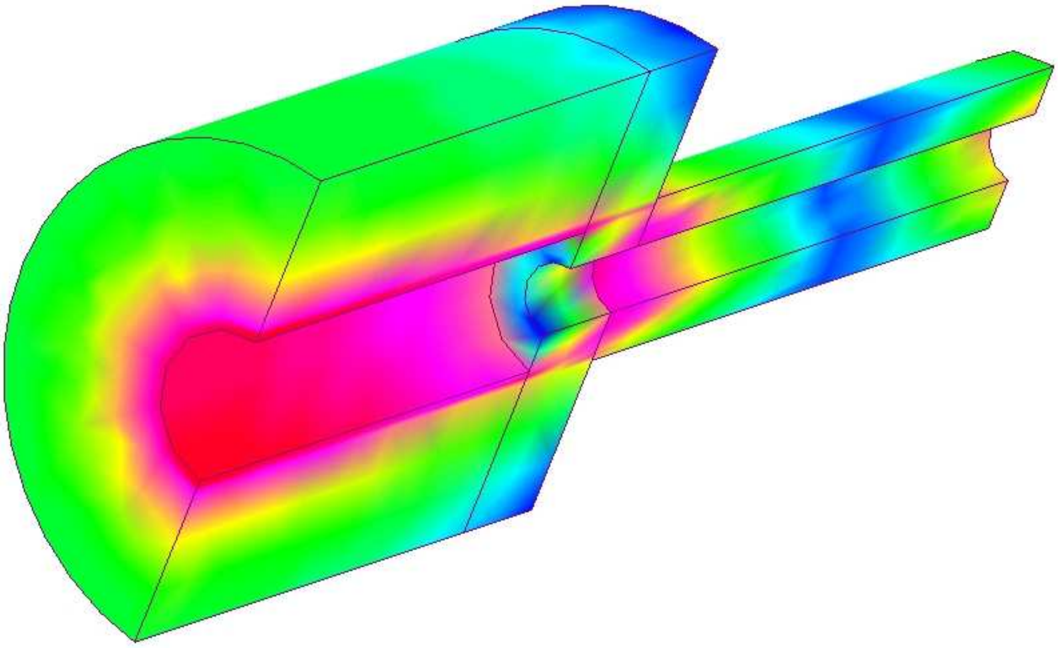
A brief survey of finite element methods that are used to analyze and design microwave components. Circuit parameters of interest to microwave engineers can be extracted from the electromagnetic field, which can be computed by the finite element method. Early methods were plagued by spurious modes (non-physical resonances in the computed spectrum), but this problem has been overcome by the use of special elements called edge elements. Further development has led to high order, hierarchical edge elements (triangles and tetrahedra), which can be used for p-adaption. The matrix problem that arises in such computations is very large and sparse, symmetric and complex. Iterative solution methods have met with limited success to date.



Coffee and Desserts are served after the seminar at 15:00 in the lounge, Burnside Hall 1024