

TEMPLE UNIVERSITY
Department of Mathematics

Applied Mathematics and Scientific Computing Seminar

Room 617 Wachman Hall

Wednesday, 28 November 2012, 4:00 p.m.
(tea at 3:45)

Asymptotic Expansions for Problems with Sharply Discontinuous Parameters

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Abstract. Domains with internal interfaces separating regions with different material properties arise in many situations. Occasionally, these material properties differ sharply, possibly with the consequences of large jumps in highest order coefficients, which in turn may lead to ill-conditioned problems. An asymptotic expansion in the jump is suggested. Applications will be discussed, including one relevant to biofilm mechanics.