
INFINITELY MANY EMBEDDED EIGENVALUES FOR THE NEUMANN-POINCARÉ OPERATOR IN 3D

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I will discuss the spectral theory of the Neumann-Poincaré operator for 3D domains with rotationally symmetric singularities, which is directly related to the plasmonic eigenvalue problem for such domains. I will then describe the construction of some special domains for which the problem features infinitely many eigenvalues embedded in the essential/continuous spectrum. Several questions and open problems will be stated.

Based on joint papers with Johan Helsing and with Wei Li and Stephen Shipman.