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Catalin Turc^{*}, 10900 Euclid Ave Yost 220, Cleveland, OH 44106, and Oscar Bruno and Akash Anand. Well posed integral equation formulations for the solution of three dimensional scattering problems in Lipschitz domains. Preliminary report.

We present several well posed frequency domain integral equation formulations for the solution of three dimensional scattering problems in domains with edges and corners. We show that these formulations discretized using a novel Nystrom method based on non-overlapping patches and Chebyshev grids deliver rapidly convergent solutions for acoustic and electromagnetic scattering problems in domains with edges and corners. (Received September 10, 2010)