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DK Seminar

March 11, 2015, 14:00 - 15:30

University of Vienna,

Faculty of Mathematics, OMP 1, WPI Seminar room

Martin Halla

Vienna University of Technology

Convergence of Hardy Space Infinite Elements for Helmholtz Scattering and Resonance Problems

We perform a convergence analysis for discretizations of Helmholtz scattering and resonance problems obtained by Hardy space infinite elements. Super-algebraic convergence with respect to the number of Hardy space degrees of freedom is achieved. As transparent boundary spheres and piecewise polytopes are considered. The analysis is based on a Gårding-type inequality and standard operator theoretical results.