

# **Imaging Embedded Objects From 3D Inverse Scattering Using Finite Element Method**

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**Abstract** - This paper presents an image reconstruction algorithm for inverse scattering using the Finite Element Method in conjunction with a modified non-linear least -squares technique. The modification involves grouping of dielectrics within shells and conditioning the correction terms, which improve the convergence process substantially. The technique is applied to detect objects embedded in a host dielectric.