Guidelines for Student Reports

PERFORMANCE ANALYSIS OF BARE-CG/IMSA-CG APPLIED TO THE DETECTION OF BURIED OBJECTS USING GPR DATA AND FREQUENCY HOPPING (OBJECTS: O, +)

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Abstract

In recent years, there has been a growing interest in the development of inverse scattering based imaging techniques for several diagnostic applications, ranging from non destructive evaluations to subsurface prospecting and medical imaging.
The imaging of buried objects is a challenging topic in electromagnetic research.
The aim of this project is to validate the performances of an innovative inversion method based on Conjugate Gradient and Frequency Hopping for the detection of objects buried in a lossy half-space. In particular, the processing is performed on synthetic time-domain data coming from a GPR (Ground Penetrating Radar) acquisition system.

Reference Bibliography: Compressive Sensing, Inverse Scattering [1]-[8]; Compressive Sensing [9]-[10].

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