Guidelines for Student Reports

TESTING OF A NON-LINEAR COMPRESSIVE SENSING SOLVER FOR 2D MICROWAVE IMAGING APPLICATIONS

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Abstract

In a non-linear system the outputs are not directly proportional to the inputs. Inverse scattering applications to microwave imaging are intrinsically non-linear because of the relation between the total field and the equivalent currents.
Up to now the theory developed for Compressing Sensing signal recovery assumes that samples are taken using linear measurements. Recently the linear sparse signal model is extended to a general non-linear model, suggesting a greedy algorithm to calculate the sparse coefficients. The aim of the project is to check if the proposed approach is suitable for microwave imaging applications.

Reference Bibliography: Compressive Sensing [1]; Compressive Sensing and Inverse Scattering [2]-[9].

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