Abstracts

A two-dimensional Newton iterative scheme for high contrast full-scale microwave tomography

A.E. Souvorov, A.E. Bulyshev, S.Y. Semenov, R.H. Svenson, A.G. Nazarov, Y.E. Sizov and G.P. Tatsis. "A two-dimensional Newton iterative scheme for high contrast full-scale microwave tomography." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1871-1872.

We propose a variant of the Newton method that uses a fast solution of the direct problem and a dual mesh. Using this method, we are able to obtain good quality images of high contrast experimental phantoms. Our computational experiments show that a full scaled image of a two-dimensional mathematical model of a human torso can be obtained with this method.

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