عنوان مقاله:

The method of fundamental solutions for complex electrical impedance tomography

نویسندگان:

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خلاصه مقاله:

The forward problem for complex electrical impedance tomography (EIT) is solved by means of a meshless method, namely the method of fundamental solutions (MFS). The MFS for the complex EIT direct problem is numerically implemented, and its efficiency and accuracy as well as the numerical convergence of the MFS solution are analysed when assuming the presence in the medium (i.e. background) of one or two inclusions with the physical properties different from those corresponding to the background. Four numerical examples with inclusion(s) of various convex and non-convex smooth shapes (e.g. circular, elliptic, peanut-shaped and acorn-shaped) and sizes are presented andthoroughly investigated.

کلمات کلیدی:

Electrical impedance tomography (EIT); Multi-frequency; Forward problem; Method of fundamental solutions (MFS); Meshless method.

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