

An ADI Scheme for Two-sided Fractional Reaction-Diffusion Equations and Applications to an Epidemic Model

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Abstract

Reaction-diffusion equations are often used in epidemiological models. In this paper, we generalize the algorithm of Meerschaert and Tadjeran for fractional advection-dispersion flow equations to a coupled system of fractional reaction-diffusion like an equation that arises from vector borne disease modeling.

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