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Solving the Spatial Solow Model: A Deep Learning Framework for Economic Growth

Communication Info

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Abstract

This study develops a spatio-temporal extension of the Solow growth model, formulated in continuous time and space domains. We provide a rigorous mathematical proof for both the existence of solutions and the convergence properties of this spatially distributed economic system toward its asymptotic stationary equilibrium. Leveraging deep learning techniques, we implement large-scale numerical simulations across diverse parameterizations and initial conditions.

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