

## Peer Review

# Review of: "Inverse Evolution Data Augmentation for Neural PDE Solvers"

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The present contribution addresses the approximation of solutions to evolution equations using neural operators. It also proposes a novel strategy for generating training data by stepping backward in time, thereby avoiding the need to solve a nonlinear system of equations.

The proposed method is demonstrated through numerical experiments on the Burgers equation (1D), the Allen–Cahn equation (2D), and the Navier–Stokes equation (2D). These experiments show that the method can produce physically realistic solution pairs and has the potential to significantly accelerate the data generation process required for training neural operators.

A comparison with neural operators that generate data using (structure-preserving) implicit (forward) integrators would be useful.

Overall, the paper is well-written, and the newly proposed framework is presented in a clear and convincing manner. The work appears to be sound and is – to the best of my knowledge – a novel contribution to the field.

## Declarations

**Potential competing interests:** No potential competing interests to declare.