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Adjoint sensitivity analysis of chaotic dynamical systems with non-intrusive least squares shadowing

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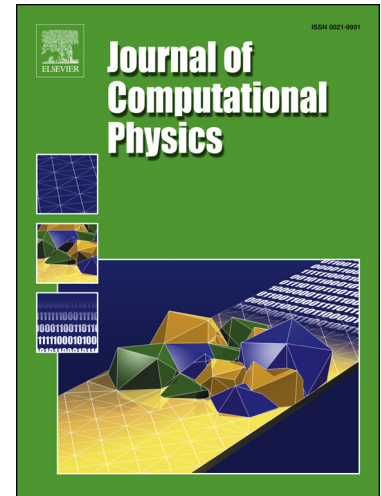
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Highlights

- A discrete adjoint non-intrusive least squares shadowing (NILSS) is presented.
- The NILSS approach is closely related to multiple shooting shadowing (MSS).
- Adjoint NILSS prevents exponential growth in time of the adjoint field.
- Adjoint NILSS is demonstrated on a simulation of wall-bounded turbulent flow.

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