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A numerical scheme for an improved Green-Naghdi model in the Camassa-Holm regime for the propagation of internal waves

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Highlights

- Derivation of Green-Naghdi model with improved frequency dispersion.
- Implementation of a second order splitting method: the conservative part and the dispersive part.
- Hybrid method of discretization: Finite volume and finite difference.
- High order schemes using WENO reconstruction.
- Numerical tests cases validate the model and the numerical methods.

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