

Blow up of a solution for a system of nonlinear higher-order wave equations with strong damping

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Abstract

This work studies a initial-boundary value problem of the strong damped nonlinear higher-order wave equations. Under suitable conditions on the initial datum, we prove that the blow up of the solution.

References

- [1] Agre K. and Rammaha M.A., Systems of nonlinear wave equations with damping and source terms, *Diff. Integral Eqns.*, 19(11), 1235–1270, 2006.
 - [2] Yu S., On the strongly damped wave equation with nonlinear damping and source terms, *E. J. Qualitative Theory of Diff. Equ.*, 39, 1-18, 2009.
 - [3] Messaoudi S. A., Blow up in a nonlinearly damped wave equation, *Math. Nachr.*, 231, 105–111, 2001.
 - [4] Pişkin E. and Polat N., Global existence and exponential decay of solutions for a class of system of nonlinear higher-order wave equations with strong damping, *J. Adv. Res. Appl. Math.*, Doi: 10.5373/jaram (in press).
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