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**A study on the  $d$ -dimensional Schrödinger equation with a power-law nonlinearity.** (English)

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Summary: The homotopy perturbation method (HPM) is applied to obtain series pattern solutions of the Cauchy problem for the  $d$ -dimensional Schrödinger equation with a power-law nonlinearity. We introduce the recurrent relation to solve the mentioned Cauchy problem. For some cases of given initial condition, we obtain the closed form of the exact solutions.

Editorial remark: There are doubts about a proper peer-reviewing procedure of this journal. The editor-in-chief has retired, but, according to a statement of the publisher, articles accepted under his guidance are published without additional control.

#### MSC:

**65M99** Numerical methods for partial differential equations, initial value and time-dependent initial-boundary value problems  
**35Q55** NLS equations (nonlinear Schrödinger equations)

Cited in **2** Documents

**Full Text:** [DOI](#)

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