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Solving solitary waves with discontinuity by means of the homotopy analysis method.

(English) [Zbl 1071.76009](#)

[Chaos Solitons Fractals](#) 26, No. 1, 177-185 (2005).

Summary: An analytic method, namely the homotopy analysis method, is applied to solve solitary waves governed by Camassa-Holm equation. Purely analytic solutions are given for soliton waves with and without continuity at crest. This provides with a new analytic approach to solve soliton waves with discontinuity.

MSC:

[76B25](#) Solitary waves for incompressible inviscid fluids

[76M25](#) Other numerical methods (fluid mechanics) (MSC2010)

[35Q51](#) Soliton equations

Cited in **1** Review

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Keywords:

[Camassa-Holm equation](#)

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