

A New Class of (2+1)-Dimensional Localized Coherent Structures with Completely Elastic and Non-elastic Interactive Properties

ZHANG Jie-Fang,<sup>1,2,3</sup> MENG Jian-Ping,<sup>1</sup> and HUANG Wen-Hua<sup>1</sup>

<sup>1</sup> Institute of Nonlinear Physics, Zhejiang Normal University, Jinhua 321004, China

<sup>2</sup> Shanghai Institute of Applied Mathematics and Mechanics, Shanghai University, Shanghai 200072, China

<sup>3</sup> Department of Mathematical Sciences, Loughborough University, Loughborough, Leestershire, LE11, 3TU, UK

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Abstract: From the variable separation solution and by selecting appropriate functions, a new class of localized coherent structures consisting of solitons in various types are found in the (2+1)-dimensional long-wave-short-wave resonance interaction equation. The completely elastic and non-elastic interactive behavior between the dromion and compacton, dromion and peakon, as well as between peakon and compacton are investigated. The novel features exhibited by these new structures are revealed for the first time.

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Key words: (2+1)-dimensional localized coherent structures, soliton, variable separation method

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