

# Combinability of Travelling Wave Solutions to Nonlinear Evolution Equation

Shikuo Liu<sup>a</sup>, Zuntao Fu<sup>a,b</sup>, Shida Liu<sup>a,b</sup>, and Zhanggui Wang<sup>c</sup>

<sup>a</sup> School of Physics, Peking University, Beijing, 100871

<sup>b</sup> STCS, Peking University, Beijing, 100871

<sup>c</sup> National Marine Environmental Predicting Center, SOA, Beijing, 100081, China

Reprint requests to Dr. Z. F.; Email: fuzt@pku.edu.cn

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First, applying the Jacobi elliptic sine function expansion, basic travelling wave solutions of some nonlinear evolution equations are obtained. Second, according to the formal invariance of nonlinear evolution equations, the sister travelling wave solutions, which have the same wave speed as the basic ones, are derived. Finally, we show that a suitable linear combination of these two solutions results in a combined travelling wave solution, whose wave speed is different from those of the basic and sister travelling wave solutions. The combination of travelling wave solutions to nonlinear evolution equations must satisfy certain conditions. – PACS: 03.65.Ge.

*Key words:* Basic Travelling Wave Solution; Sister Travelling Wave Solution;  
Combined Travelling Wave Solution.