Hong-Chan Zheng, Wen-Xiu Ma and Xiang Gu* (xianggu@mail.usf.edu), Department of Mathematics & Statistics, University of South Florida, 4202 E Fowler Ave, CMC342, Tampa, FL 33620-5700. Hirota Bilinear Equations with Linear Subspaces of Hyperbolic and Trigonometric Function Solutions.

We applied linear superposition principles to the linear subspaces of hyperbolic and trigonometric function solutions to construct solutions for some Hirota bilinear equations, with the purpose of searching for a specific subclass of $N$-soliton solutions formulated by linear combinations of hyperbolic and trigonometric functions. Furthermore, an algorithm using weights is discussed together with a few illustrative examples. (Received January 17, 2017)