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Wen-Xiu Ma* (mawx@cas.usf.edu), 4202 E Fowler Avenue, Tampa, FL 33620. *Hirota bilinear equations, Bell binary polynomials and the linear superposition principle*. Preliminary report.

We will discuss when Hirota bilinear equations possess the linear superposition principle, and explore basic relationships between Hirota bilinear equations and linear subspaces of solutions. A sort of resonance of different waves is the starting point to formulate linear subspaces of solutions for nonlinear differential equations. (Received December 10, 2011)