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Colorado at Colorado Springs, 1420 Austin Bluffs Parkway, PO Box 7150, Colorado Springs, CO
80933. *A generating function for the N-soliton solutions of the Kadomtsev-Petviashvili II equation.*

We describe a classification of the N-soliton solutions of the Kadomtsev-Petviashvili II equation in terms of chord diagrams of N chords joining pairs of 2N points. The different classes of N-solitons are enumerated by the distribution of crossings of the chords. This is joint work with Yuji Kodama. (Received February 26, 2007)