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Ralph Willox* (willox@ms.u-tokyo.ac.jp), **Alfred Ramani**, **Basil Grammaticos** and
Junkichi Satsuma. *An IST-like solution to the Cauchy problem for a soliton cellular automaton.*

By analogy with the well-known IST scheme for the Korteweg-de Vries (KdV) equation, we define spectral data for an extended solitonic cellular automaton related to the KdV equation through ultradiscretization. In particular, it will be explained how the evolution of the spectral data that correspond to solitons is defined in terms of an ultradiscrete squared eigenfunction, while the remaining data are found to satisfy a linearized version of the cellular automaton. The scheme we present offers a solution to the Cauchy problem for the ultradiscrete KdV equation, defined over the real numbers, in almost perfect analogy with the continuous case. (Received September 05, 2013)