1067-53-1083 **Kenichi Maruno*** (kmaruno@utpa.edu), Department of Mathematics, The University of Texas - Pan American, 1201 W. Univ. Dr., Edinburg, TX 78539-2999, **Kenji Kajiwara**, Faculty of Mathematics, Kyushu University, Fukuoka, Japan, **Yasuhiro Ohta**, Department of Mathematics, Kobe University, Kobe, Japan, and **Bao-Feng Feng**, Department of Mathematics, The University of Texas - Pan American, Edinburg, TX. *The motion of discrete curves and the discrete hodograph transformation.*

The study of discrete curves is one of interesting topics in discrete integrable systems and discrete differential geometry. We show that a broad class of discrete integrable systems can be interpreted as equations describing the motion of discrete curves. The discrete hodograph transformations play an important role in this interpretation.

As examples, we discuss the discrete Short Pulse equation and the discrete WKI loop soliton equation. These equations are nothing but the Eulerian description of the motion of discrete curves. These equations are equivalent to the Lagrangian description of the motion of discrete curves which are described by the discrete Sine-Gordon equation and the discrete modified KdV equation, respectively. (Received September 18, 2010)