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nan jiang* (njiang@usd.edu), Math Dept of University of South Dakota, 414 E. Clark St, Vermillion, SD 57069. *On the Convergence of Fully-discrete High-Resolution Schemes with van Leer's flux limiter for Conservation laws*. Preliminary report.

A class of fully-discrete high-resolution schemes using flux limiters was constructed by P. K. Sweby [*SIAM J. Numer. Anal.* 21 (1984), 995-1011], which amounted to add a limited anti-diffusive flux to a first order scheme. This technique was very successful in obtaining high-resolution, second order, oscillation free, explicit difference schemes. However, the entropy convergence of such schemes has been open. For the scalar convex conservation laws, we use one of Yang's convergence criteria [*SIAM. J. Numer. Anal.* 36 (1999) No. 1, 1-31] to show the entropy convergence of the schemes with van Leer's flux limiter when the building block of the schemes is the Godunov or the Engquist-Osher. The entropy convergence of the corresponding problems in semi-discrete case, for convex conservation laws with or without a source term, has been settled by Jiang and Yang [*Methods and Applications of Analysis* Vol. 12 (2005), No. 1 pp. 089-102]. (Received September 12, 2009)