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Alexei Rybkin* (arybkin@alaska.edu), Department of Math and Statistics, University of Alaska Fairbanks, Fairbanks, AK 99775. *On meromorphic solutions to the Korteweg-de Vries equation with non-decaying initial data supported on a left half line.*

We show that under the KdV flow an initial profile supported on a left semi-axis from a very broad function class (without any decay assumption) instantaneously evolves into a meromorphic function with no poles on the real line. Our treatment is based on a suitable modification of the inverse scattering transform and a detailed investigation of the Titchmarsh-Weyl m-function. As by-product, we improve some related results by others. (Received September 21, 2009)