1131-35-251 **Alejandro B Aceves*** (aaceves@smu.edu), Department of Mathematics, Clements Hall 208, Box 0156, Southern Methodist University, Dallas, TX 75275. *Rogue waves in the integrable Thirring model.*

Rogue waves are solutions of nonlinear integrable systems with the property of being localized both in time and space. Most of the recent work on rogue waves have dealt with the nonlinear Schroedinger equation (NLSE). For the NLSE, both theoretical results and experimental realizations in nonlinear optical fibers have drawn much attention as they may also help understand such waves observed in the ocean.

While one would expect rogue waves should be present in other integrable systems, not much is known to date. This work presents rogue wave solutions of the integrable massive Thirring model (MTM). These spatio/temporal localized solutions were obtained using the Darboux transformation. We discuss how these solutions may be of relevance to the propagation of optical pulses in a fiber Bragg grating and the formation of rogue waves in the ocean for a periodic (as opposed to flat) bottom.

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