

Rational solutions to the mKdV equation

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This talk will focus on ongoing work that uses a modified inverse scattering transform to produce solutions to the modified Korteweg-de Vries (mKdV) equation that may be of particular interest. After a brief discussion of this equation and the methodology, I will present some rational solutions to the mKdV equation of arbitrary order that we obtain through this process, as well as a “rational solution of infinite order” that we are able to realize as a limit of these finite order solutions. Finally, I will describe some preliminary results on the asymptotic properties of this infinite order solution. This is joint work with Deniz Bilman, Elliot Blackstone, and Peter Miller.