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A NEW SPECTRAL PROBLEM AND THE RELATED INTEGRABLE NONLINEAR EVOLUTION EQUATIONS.

A new spectral problem is introduced, which is indicated to be the negative counterpart of the mKdV spectral problem. Based on the fact, some integrable nonlinear evolution equations are obtained, including the derivative Schwarzian KdV equation, the mKdV5 equation and the sine-Gordon equation. Besides, Lax pairs and finite genus solutions of the equations are given.