999-34-261 **Tuncay Aktosun*** (`aktosun@math.msstate.edu`), Department of Mathematics and Statistics, Mississippi State University, Mississippi State, MS 39762. *A generalized Borg-Marchenko theorem with continuous spectrum.*

In this joint work with Ricardo Weder, the Schrödinger equation on the half line is considered when the potential is real valued and integrable and has a finite first moment. It is shown that the potential and the boundary conditions are uniquely determined by the data containing the discrete eigenvalues for a boundary condition at the origin, the continuous part of the spectral measure for that boundary condition, and a subset of the discrete eigenvalues for a different boundary condition at the origin. This result extends the celebrated two-spectrum uniqueness theorem of Borg and Marchenko to the case where there is also a continuous spectrum. (Received August 24, 2004)