

Meeting: 1001, Evanston, Illinois, SS 22A, Special Session on Special Functions, Orthogonal Polynomials, and their Applications

1001-33-217 **Hans W Volkmer*** (volkmer@uwm.edu), Dept of Math. Sciences, P.O. Box 413, University of Wisconsin-Milwaukee, Milwaukee, WI 53201. *The coexistence problem for the Heun equation.*

The coexistence problem for the Heun equation is formulated and solved for certain parameter configurations. It turns out that the Heun equation is the most general differential equation that allows an explicit solution of the coexistence problem. Earlier results by Ince, Magnus and Winkler are obtained as special cases. (Received August 26, 2004)