Meeting: 1006, Lubbock, Texas, SS 5A, Special Session on Recent Advances in Complex Function Theory

1006-30-135 **Aimo Hinkkanen*** (aimo@uiuc.edu), Department of Mathematics, University of Illinois, Urbana, IL 61801. *Growth properties of Painlevé transcendents.*

In the last ten years, there has been a lot of interest in the six Painlevé differential equations, introduced first around 1900 as the previously unknown second order nonlinear ordinary differential equations whose solutions have no movable singularities. This property seems to be useful in many applications, which has widened the range of scientists studying these equations.

After the removal in the last few years of the gaps that remained in the rigorous proof that all solutions of these equations indeed have the Painlevé property of having no movable singularities, the research on the Painlevé equations from the point of view of complex analysis has now turned to the growth properties of the solutions of these equations. Such properties for the solutions of the first, second, and fourth equation are surveyed in this talk. This includes recent joint work of the speaker and Ilpo Laine. (Received February 11, 2005)