

Meeting on Computational and Analytic Problems in Spectral Theory

Cardiff School of Computer Science & Informatics, June 6th-9th 2016

Abstract of Talk

THE ASSOCIATED LEGENDRE EQUATION AND GENERALIZED NEVANLINNA FUNCTIONS

Heinz Langer

Institut für Analysis und Scientific Computing, TU Vienna, Wiedner Hauptstr. 8-10, 1040 Vienna, Austria

We consider the equation

$$-(1-x^2)y'(x))' + \left(\frac{1}{4} + \frac{\ell^2}{1-x^2}\right)y(x) = \lambda y(x), \quad x \in (-1, 1),$$

and study the Titchmarsh–Weyl function, which corresponds to the Frobenius solutions at one endpoint. It is a generalized Nevanlinna function which contains all the spectral information of the problem. Joint work with C. Fulton and A. Luger.