Meeting on Computational and Analytic Problems in Spectral Theory

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Abstract of Talk

THE ASSOCIATED LEGENDRE EQUATION AND GENERALIZED NEVANLINNA FUNCTIONS

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We consider the equation

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

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.