Analysis Seminar

Title: The differential equation of second order for the cross product of Bessel functions

Speaker: H. Render

Date: Tue 14th November 2017 at 4:15PM

Location: SCN 125

Abstract: Bessel functions play an important role for problems with cylindrical symmetry. The cross product of Bessel functions is used for solving boundary value problems of an annular cylinder. In this talk we shall present the construction of a second order differential equation for the cross product. The method applies in a more general setting and various examples will be given. For the case of half-integers the potential of the cross product can be explicitly computed and examples show that the potential seems to have a special form, having a unique maximum at one point x_0 and it is increasing for $x < x_0$ and decreasing for $x > x_0$.