

Title: Weyl's Theory for Singular Differential Equations

Abstract: In this talk, I will explain the well-known theory on singular differential equations. This theory is related with describing the number of the squarely integrable solutions of a singular second order differential equation and this theory is based on the nested circles that correspond to the regular selfadjoint boundary conditions. These nested circles may converge either to a circle or a point at infinity. Primary case is known as the limit-circle case and secondary case is known as the limit-point case for a singular second order differential equation. In the limit-circle case two linearly independent solutions and any combination of them belong to squarely integrable space. However, in the limit-point case one of the linearly independent solutions can not lie in this space.