1125-46-3028   **Keivan Hassani Monfared** and **Ehssan Khanmohammadi*** (`ehssan@fandm.edu`). *An Inverse Spectrum Problem for Infinite Graphs and Applications.*

In this talk we present our extensions of some recent results on inverse eigenvalue problems of finite graphs to the infinite setting by means of functional analytic methods. We show that for a given infinite graph G on countably many vertices, and a compact, infinite set of real numbers Λ there is a real symmetric matrix A whose graph is G and its spectrum is Λ. We also show that any two such matrices constructed by our method are approximately unitarily equivalent. (Received September 20, 2016)