



Analysis Seminar

A PROOF OF THE LEBESGUE RADON NIKODYM THEOREM DUE TO VON NEUMANN

By
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Abstract: I will present a proof of the very important Lebesgue Radon Nikodym theorem (in this form it is a combination of the statements of the Lebesgue Decomposition theorem and the Radon Nikodym Theorem) due to von Neumann, appeared in his article “On Rings of Operators III”, in 1939, that uses the Riesz Representation Theorem for bounded linear functionals of a Hilbert space. I will mostly follow the modern presentation in Rudin's Real and Complex Analysis.

In order to make the talk understandable to most undergraduate students, I will briefly review some basic tools from Measure Theory and Hilbert Spaces.

Date: Monday, November 25, 2019

Time: 14:00-15:00

Place: SA – Z18

Tea and cookies will be served after the seminar.