

# ANALYSIS SEMINAR

Ping pong balayage and convexity of  
the

Riesz and logarithmic equilibrium  
measures

Peter Dragnev

Indiana University – Purdue University, Fort Wayne, IN

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**Abstract:** *In this presentation I will prove that the equilibrium measure of a compact subset on the real line or unit circle has essentially convex density, namely if the compact set contains an interval, its equilibrium measure is absolutely continuous and has a convex density. This is true for both, the classical logarithmic case, and the Riesz case.*

*The electrostatic interpretation is the following: if we have a finite union of subintervals on the real line, or arcs on the unit circle, the electrostatic distribution of many "electrons" will have convex density on every subinterval.*

*I will present applications of this result to external field problems and constrained energy problems. I will try to keep jargon at minimal, so the presentation is accessible to a broader audience .*