

BI-CO MATHEMATICS COLLOQUIUM

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***“Sectorial and Strip-type Operators
in the Study of Ill-posed Problems”***

Monday, September 26, 2022

Talk at 4:00 – Park 338

Tea at 3:30 – Park 361, Math Lounge

Abstract:

Most natural phenomena in our physical world can be formulated by scientists into partial differential equations. Diffusion, waves, fluid dynamics, and musical vibrations are all examples. Solving these problems within the context of some given data may have a guided process, but consideration of the phenomena in reverse, that is backward in time, often clouds an approach.

In this talk, we will discuss ill-posed problems which are often inverse problems or final value problems (solving backward in time). After some examples, we will demonstrate how this topic can be described in the language of operator theory and uncover some interesting properties that are showcased in the most common examples. A focus on characterization of operators according to their resolvent set, sometimes lying within a sector or a strip will be highlighted.

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