

COLÓQUIO DE MATEMÁTICA

Quarta-feira, 19 de fevereiro de 2020 às 14h30

An Introduction to Quantum Graphs

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Edifício C6 - Sala: 6.2.33



Ciências
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Matemática

*Convívio antes do Colóquio na Sala d Docentes do DM,
com café, chá e bolos (14h até 14h30)*

Sumário:
We give a gentle introduction to the theory of differential operators on metric graphs, commonly referred to as quantum graphs. These objects, which have become popular models in mathematical physics and the theory of PDEs over the last two decades, display profound parallels to difference equations on (discrete) graphs. We will explore these parallels in detail, illustrated by a large number of examples. We conclude by examining relationships between solutions of differential and difference equations on a graph and the geometry of the graph, with a view to showing how understanding the former allows insights into the structure of the graph.