

HONOURS SEMINAR

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Representations of $\mathfrak{sl}_2(\mathbb{C})$

Thursday, December 20th, 2018

1:00 p.m.

Mathematics and Statistics Lounge, CW307.20

Abstract:

After an introduction to the representation theory of Lie algebras, we will classify the finite-dimensional representations of $\mathfrak{sl}_2(\mathbb{C})$.

The representation theory of $\mathfrak{sl}_2(\mathbb{C})$ is important in several areas of mathematics. In this talk, we will see how it is used to understand the representations of the Terwilliger algebra of the hypercube, which is the algebra generated by the adjacency and dual adjacency matrices of the cube graph.