



Vienna School
of Mathematics

PhD Colloquium

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The Cyclic Sieving Phenomenon - an Introduction

Abstract: As the title states, this talk aims to be an introduction to the cyclic sieving phenomenon. We want to discuss what the cyclic sieving phenomenon is and see some first examples: The cyclic sieving phenomenon is a beautiful phenomenon illustrating the interplay of combinatorics and algebra. It was first introduced by Reiner, Stanton and White in 2004 and since then has been widely studied. It tells you that one can often count the fixed points of a cyclic group action on a given set of combinatorial objects by simply plugging in roots of unity into a polynomial related to the combinatorial object. Plenty of instances of the CSP were found, e.g., for permutations, for tableaux, for non-crossing matchings, for non-crossing partitions, for triangulations, ... the list is still growing. So who knows, maybe your favourite combinatorial object is on the list as well?

October 27, 2025, 15:00-16:00

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(Oskar-Morgenstern-Platz 1)