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The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on Pure Mathematics

Correlators for finite conformal field theories

by

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Abstract

Correlators of a rational conformal field theory (RCFT) can be described as specific elements in spaces of conformal blocks. A general construction of these elements, found more than a decade ago, makes use of the finiteness properties of RCFTs together with the connection between RCFTs and topological field theories (TFTs). For non-rational conformal field theories a direct connection with TFTs no longer exists. Still, an alternative construction of correlators is possible for the class of so-called finite CFTs, which are non-semisimple but share relevant finiteness properties of RCFTs. This construction is based on a 'Lego-Teichmüller game' that controls the pair-of-pants decompositions of surfaces. I will describe basic features of these two constructions as well as some of the tools that are needed for establishing them.

Date: Friday, 30 August 2019

Time: 3:00p.m. - 4:00p.m.

**Venue: Room 5510, Academic Building
(near Lifts 25-26), HKUST**

All are welcome!