



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

***MATHEMATICS COLLOQUIUM***

Two dimensional dimers beyond planarity

By

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Abstract

We study the dimer model and the monomer double dimer model, and prove that on two-dimension like graphs (not necessarily planar), both the correlation function and the loop connectivity probability decays to zero. Our analysis is by introducing a new (complex) spin representation for all models belonging to this class, and by deriving a new proof of the Mermin-Wagner theorem which does not require the positivity of the Gibbs measure. Based on joint work with Lorenzo Taggi (Sapienza Univ. di Roma).

**Date : 12 April 2024 (Friday)**

**Time : 3:00pm – 4:00pm**

**Venue : Lecture Theater F (Lifts 25/26)**

*All Are Welcome!*