

AMENDMENT



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

Proof of Delfino-Viti conjecture

by

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Abstract

In the context of random cluster models, the connectivity functions denoted as $P_n(x_1, x_2, \dots, x_n)$ signify the probabilities associated with n points belonging to the same finite cluster. The initial conjecture by Delfino and Viti proposed that, at the critical point in the continuum limit, the ratio $R = P_3(x_1, x_2, x_3) / \sqrt{P_2(x_1, x_2) P_2(x_2, x_3) P_3(x_1, x_3)}$ converges to a universal constant solely dependent on κ . This dependence can be expressed through the imaginary DOZZ formula. For percolation, this constant approximates to 1.022. In this presentation, we elucidate the proof specifically for the percolation scenario. Additionally, we introduce analogous quantities within the conformal loop ensembles carpet/gasket measure, demonstrating their precise alignment with the imaginary DOZZ formula. I will also discuss the conjecture for four-point function, which is proposed in the recent work by Nivesvitat, Ribault and Jacobsen on exact solvability of critical loop model.

This is based on the joint work with Morris Ang (Columbia), Gefei Cai (BICMR), and Xin Sun (BICMR).

Date : 23 May 2024 (Thursday)

***Time : 10:30am – 11:30am**

***Venue : Room 1410 (near Lift 25/26)**

All are Welcome!