THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

Number Theory Seminar

Strong asymptotic of plane overpartitions

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Date:	June 7, 2024 (Friday)
Time:	1:00 – 2:00pm
Venue:	Room 210, Run Run Shaw Bldg., HKU

Abstract

The plane overpartition, a two-dimensional version of the overpartition of an integer n, was introduced recently by Corteel, Savelief, and Vuletic. In the past, this plane overpartition has been studied as "dotted plane partition" by Brenti, "strict plane partition" by Vuletić, and "BKP plane partition" by Foda and Wheeler. We establish a strong asymptotic for the plane overpartition by giving arbitrarily long summands in the main term and explicit error terms. In addition, we consider the k-th differences of the plane overpartition and provide a strong asymptotic for these differences. We show that these k-th differences are positive for any fixed k and satisfy higher order Turan inequalities for any large integer n.

All are welcome