PhD Colloquium

Manosij Ghosh Dastidar

Elementary methods in Combinatorial Problems Regarding Integer Partitions

In this talk I would like to exhibit some elementary methods which are useful for solving problems in Integer Partitions. I would like to chiefly discuss two key theorems, the first one relating to Cranks and Frobenius symbols and the second one regarding the parity bias in Integer Partitions.

The Stanley–Elder theorem asserts that the number of j's in the partitions of n is equal to the number of parts that appear at least j times in a given partition of n, summed over all partitions of n. In this talk, I shall show that the number of partitions of n with crank $>j$ equals to half the total number of j's in the Frobenius symbols for n.

In the next segment, I would like to talk about the phenomenon of Parity bias in Integer Partitions. To elucidate further, I will show how the number of partitions with more odd parts than even parts is greater than the number of partitions with more even parts than odd parts, and, extending the argument, also prove a conjecture of Kim–Kim–Lovejoy for partitions with distinct parts.

27 April, 16:00 – 16:45
Zeichensaal 3, Freihaus, grüner Bereich, 7. Stock
TU Wien