



UNIVERSIDAD
DE LA FRONTERA

SEMINARIO CRUZ DEL SUR

DEPARTAMENTO DE MATEMÁTICA Y ESTADÍSTICA

How many collisions ?

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Auditorio Prof. Manuel López Ramírez

ABSTRACT.

The problem of counting the number of collisions among n marbles is old and fun, especially to kids who play. We prove by example that the number of elastic collisions of n marbles of equal mass and equal size in d -dimensional space can be greater than $n^3/27$ for $n \geq 3$ and $d \geq 2$. The previously known lower bound was of order n^2 .