

# Balanced Weighing Matrices

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A weighing matrix is a square  $(-1, 0, +1)$ -matrix with pairwise orthogonal rows such that each row has a constant number of non-zero entries. If upon taking the absolute values of all the entries of a weighing matrix, one obtains an incidence matrix for a symmetric balanced incomplete block design, we say that the weighing matrix is balanced. In this talk, we construct a new infinite family of balanced weighing matrices.

This is joint work with Dr. Hadi Kharaghani (University of Lethbridge) and Dr. Sho Suda (National Defense Academy of Japan).