



# ICECA

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## THE PIZZA THEOREM

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The Pizza Theorem is a classical result in fair division: if one cuts a disk by an even number of equally-spaced lines through any point in the disk, where there are at least four lines, then the alternating sum of the areas of the slices equals zero. We extend the Pizza Theorem to translates of convex bodies in  $n$  dimensions that contain the origin and are stable under a given Coxeter group. We also give stronger results for the case of a ball in  $n$  dimensions. Using Herb's theory of 2-structures, we derive a dissection proof and extensions to all intrinsic volumes.

This is joint work with Richard Ehrenborg and Sophie Morel.