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Alexey Balitskiy* (abalitskiy@ias.edu), 1 Einstein Dr, Princeton, NJ 08540. *Covering by multiplanks.*

For a convex body $K \subset \mathbb{R}^n$ covered by the union of convex bodies C_1, \dots, C_N , there are two classical results regarding the subadditivity of the width (the celebrated plank theorem of Thøger Bang) and the inradius (due to Vladimir Kadets). The proofs of those inequalities can be intertwined in order to get a result on coverings by certain generalized non-convex “multiplanks”. One corollary of this approach is a family of inequalities interpolating between Bang’s theorem and Kadets’s theorem. Other corollaries include results reminiscent of the Davenport–Alexander problem, with the simplest one being as follows: if an m -slice pizza cutter (that is, the union of m equiangular rays in the plane with the same endpoint) is applied N times to the unit disk, then there is a piece of the partition with inradius at least $\frac{\sin \pi/m}{N + \sin \pi/m}$. (Received January 19, 2022)