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*Geometric maximal operators and BMO on product bases*

This is joint work with Galia Dafni and Ryan Gibara. We consider the problem of the boundedness of maximal operators on BMO on shapes in  $\mathbb{R}^n$ . We prove that for bases of shapes with an engulfing property, the corresponding maximal function is bounded from BMO to BLO, generalizing a known result of Bennett for the basis of cubes. When the basis of shapes does not possess an engulfing property but exhibits a product structure with respect to lower-dimensional shapes coming from bases that do possess an engulfing property, we show that the corresponding maximal function is bounded from BMO to a space we define and call rectangular BLO.