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Vladyslav Yaskin* (vyaskin@math.ou.edu), Department of Mathematics, University of Oklahoma, Norman, OK 73019. *A solution to the lower dimensional Busemann-Petty problem in the hyperbolic space.*

The lower dimensional Busemann-Petty problem asks whether origin symmetric convex bodies in \mathbb{R}^n with smaller volume of all k -dimensional sections necessarily have smaller volume. As proved by Bourgain and Zhang, the answer to this question is negative if $k > 3$. The problem is still open for $k = 2, 3$. Here we completely solve the lower dimensional Busemann-Petty problem in the hyperbolic space \mathbb{H}^n . (Received September 21, 2006)