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Jared Schlieper*, Department of Mathematics, University of Missouri, Columbia, MO 65211. *A note on k -intersection bodies.*

The concept of an intersection body is central for the dual Brunn-Minkowski theory and played an important role in the solution of the Busemann-Petty problem. A more general concept of k -intersection bodies is related to the generalization of the Busemann-Petty problem. In this note, we compare classes of k -intersection bodies for different k and examine the conjecture that these classes increase with k . In particular, we construct a 4-intersection body that is not a 2-intersection body. (Received February 22, 2007)