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Antoine Deza* (deza@mcmaster.ca), McMaster University, Hamilton, Ontario L8S 4K1, Canada, **Tamas Terlaky**, McMaster University, Hamilton, Ontario L8S 4K1, Canada, and **Yuriy Zinchenko**, McMaster University, Hamilton, Ontario L8S 4K1, Canada. *Polytopes and Arrangements: Diameter and Curvature.*

By analogy with the conjecture of Hirsch, we conjecture that the order of the largest total curvature of the central path associated to a polytope is the number of inequalities defining the polytope. By analogy with a result of Dedieu, Malajovich and Shub, we conjecture that the average diameter of a bounded cell of a simple arrangement is less than the dimension. We prove continuous analogues of two results of Holt-Klee and Klee-Walkup, namely, we construct a family of polytopes which attain the conjectured order of the largest total curvature, and we prove that the special case where the number of inequalities is twice the dimension is equivalent to the general case. We substantiate the conjectures in low dimensions and highlight additional links. (Received August 25, 2007)