1030-52-366 **Maria Alfonseca***, 300 Minard Hall, Department of Mathematics, Fargo, ND 58105, and **Dmitry Ryabogin** and **Artem Zvavitch**. *Radially symmetric intersection bodies with an (n-1)-dimesional face.* Preliminary report.

Intersection bodies appear as dual of zonoids. It is not known if a zonoid whose dual is also a zonoid may have an (n-1)-dimensional symmetric face in dimensions 5 and higher. The existence or not of such examples is related to an isometric analogue of a theorem of Grothendieck that states that the only infinite-dimensional Banach spaces that are isometric to both a subspace of L^1 and a quotient space of L^∞ are isomorphic to a Hilbert space.

Approaching the problem from the intersection body setting, we construct examples of radially symmetric intersection bodies that have an (n-1)-dimensional symmetric face and we investigate if their duals are zonoids. (Received August 07, 2007)