1125-52-61 **Metin Alper Gur*** (mgur@indiana.edu), 831 East 3rd Street, Bloomington, IN 47405.

Hypersurfaces with central convex cross-sections.

The compact transverse cross-sections of a cylinder over a central ovaloid in $\mathbb{R}^n$, $n \geq 3$, with hyperplanes are central ovaloids. A similar result holds for quadrics (level sets of quadratic polynomials in $\mathbb{R}^n$, $n \geq 3$). Their compact transverse cross-sections with hyperplanes are ellipsoids, which are central ovaloids.

In $\mathbb{R}^3$, Blaschke, Brunn, and Olovjanischnikoff found results for compact, convex surfaces that motivated B. Solomon to prove that these two kinds of examples provide the only complete, connected, smooth surfaces in $\mathbb{R}^3$, whose ovaloid cross-sections are central. We generalize that result to all higher dimensions, proving: *If $M^{n-1} \subseteq \mathbb{R}^n$, $n \geq 4$, is a complete, connected, smooth hypersurface, which intersects at least one hyperplane transversally along an ovaloid, and every such ovaloid on M is central, then M is either a cylinder over a central ovaloid or a quadric.* (Received July 03, 2016)