1141-52-145 **Maria Alfonseca-Cubero** (maria.alfonseca@ndsu.edu), **Fedor Nazarov** (nazarov@math.kent.edu), **Dmitry Ryabogin*** (ryabogin@math.kent.edu) and **Vlad Yaskin** (yaskinv@gmail.com). *On a local version of the fifth Busemann-Petty problem.*

Let K be an origin-symmetric convex body in $\mathbb{R}^n$, $n \geq 3$, satisfying the following condition: there exists a constant c such that for all directions ξ in $\mathbb{R}^n$,

$$h_K(\xi)\,\mathrm{vol}_{n-1}(K \cap \xi^\perp) = c.$$

(here $\xi^\perp$ stands for a subspace of $\mathbb{R}^n$ of co-dimension 1 orthogonal to a given direction ξ, and $h_K(\xi)$ is the support function of K in this direction). The fifth Busemann-Petty problem asks if K must be an ellipsoid. We give an affirmative answer to this question for origin-symmetric convex bodies that are sufficiently close to an Euclidean ball in the Banach-Mazur distance. This is a joint work with Maria Angeles Alfonseca, Fedor Nazarov and Vlad Yaskin. (Received July 26, 2018)