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Jayce Robert Getz* (jgetz@math.duke.edu), **Chun-Hsien Hsu** (simonhsu@math.duke.edu) and **Spencer Leslie** (lesliew@math.duke.edu). *Harmonic analysis for certain spherical varieties.*

Braverman and Kazhdan have suggested studying Fourier transforms and Poisson summation formulae on spherical varieties as a means of proving Langlands functoriality in great generality. Their conjectures have been refined and extended by many, including Ngo and Sakellaridis. In this talk I will describe explicit formulae for the Fourier transform on Braverman-Kazhdan spaces (also known as pre-flag varieties) and for certain spherical varieties that are built out of triples of quadratic spaces. Though our primary motivation comes from automorphic representation theory, these formulae should be of interest more broadly. In particular, they allow for many techniques of analytic number theory to be brought from the setting of vector spaces to the setting of spherical varieties. (Received January 17, 2021)