1173-52-98 **Pablo Soberón*** (pablo.soberon-bravo@baruch.cuny.edu), One Bernard Baruch Way, New York, NY 10010. *Stiefel manifolds and mass partition results.*

Mass partition results, such as the ham sandwich theorem, study how we can split measures or finite sets of points in R^d given some geometric constraints. The proofs are often topological, as they rely on parametrizations of the space of all possible partitions with a well suited topological space. In this talk we discuss new mass partition results where the parametrization involves Stiefel manifolds. This includes generalizations of the central transversal theorem, partitions of measures by concentric spheres in R^d, and partitions of families of k-dimensional affine subspaces in R^d using a $(d-k-1)$-dimensional affine subspace as the dividing object. The results presented are from collaborations with Ilani Axelrod-Freed, Michael Manta, and Yuki Takahashi,. (Received September 17, 2021)