1157-60-419 **Fabrice Baudoin*** (fabrice.baudoin@uconn.edu), 341 Mansfield Road, Mansfield, CT 06250, and **Nizar Demni** and **Jing Wang**. *Brownian windings in dimension 4.*

We define and study the windings of Brownian paths in the 4 dimensional Euclidean, spheres and hyperbolic spaces. In particular, the asymptotic laws of these windings are shown to be Gaussian for the flat and spherical geometries while the hyperbolic winding exhibits a different long time-behavior. The corresponding asymptotic law seems to be new and is related to the Cauchy relativistic distribution. (Received February 03, 2020)