Aaron M. Smith* (asmi28@uottawa.ca), Canada, and Natesh S. Pillai. Coupling in Kac’s Walks.

Kac’s walks on the sphere and on the special orthogonal group, introduced in 1953 and 1970, have long histories in the statistical physics and computational statistics literatures. I will describe the history of these walks and review some of the many results on the mixing properties of these processes. I then present some work of myself and Pillai, which uses a coupling construction to relate some bounds in random matrix theory to the mixing of these two walks. Finally, I will discuss some other contexts in which a similar approach may be used. (Received August 28, 2018)