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**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)