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Marc A. Rieffel* (rieffel@math.berkeley.edu), Department of Mathematics, University of California, Berkeley, CA 94720-3840. *Matrix algebras as quantum finite metric spaces that approximate the 2-sphere.*

I will sketch how the 2-sphere (and other coadjoint orbits) can be approximated by matrix algebras, and how the matrix algebras can be equipped with the structure of “quantum metric spaces” in such a way that they converge to the 2-sphere for a “quantum Gromov-Hausdorff distance”. So equipped, the matrix algebras can be viewed as quantum finite metric spaces. Berezin symbols are used to prove the convergence. (Received April 01, 2010)