1145-22-2929　　　　**Bob Palais*** (`bob.palais@uvu.edu`). *Computational advantages and historical insights from viewing quaternionic interpolation of three-dimensional rotations as geodesic vector interpolation on S^2.*

We compare three methods for interpolating two three-dimensional rotations: Directly in $SO(3)$ matrix form; Using the Euler transform from $S^3 \to SO(3)$; Using the analog of ordinary vector interpolation for directed geodesic arcs on S^2. We also compare the spherical triangles used by Euler and Rodrigues to locate an axis for general and composed rotations, and note an interesting consequence of the spherical triangles of Harriot and Girard. (Received September 25, 2018)