1993j

"Quaternion Computation from a Geometric Point of View," M. D. Shuster and G. A. Natanson, *The Journal of the Astronautical Sciences*, Vol. 41, No. 4, October–December 1993, pp. 545–556.

Dr. Gregory Natanson was the only person ever to have found an error in the QUEST work. 1981a had claimed that by sequential rotation the rotation angle in the QUEST computations could always be made smaller than 90 deg. In fact, it could only always be made smaller than 120 deg. The early misstatement by the first author was not consequential for the performance of the QUEST algorithm, because the only need was that the angle of rotation be substantially less than 180 deg. Natanson never published his result.

Years later the first author discovered that the four cases of Shepperd's algorithm for the extraction of a quaternion from the direction-cosine matrix could be understood in terms of sequential rotations. He then contacted Natanson and suggested that they publish their two results on sequential rotations together. The result is 1993j.