

2007i

“Effective Direction Measurements for Spacecraft Attitude: II. Predicted Directions,”
Malcolm D. Shuster, *The Journal of the Astronautical Sciences*, Vol. 55, No. 4, October–
December 2007, pp. 479–492.

This article presents an alternative set of effective measurements which will reproduce a given attitude estimate and attitude covariance matrix, but differs greatly from the previously presented equivalent directions. There are only two predicted directions, and they may have arbitrary directions, but their statistical structure is complex and they cannot be used in the Wahba problem. They have the interesting property that they will produce the same given attitude estimate and attitude covariance matrix in the TRIAD algorithm.

This work is a continuation of 2007h, in which another set of effective measurements, the equivalent directions, were presented, and is continued in 2007j, in which the two sets of effective measurements are applied to the analysis of different attitude data fusion strategies.

Succeeded 2007h. Precedes 2007j.

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