

2003i

“Uniform Attitude Probability Distributions,” M. D. Shuster, *The Journal of the Astronautical Sciences*, Vol. 51, No. 4, October–December 2003, pp. 451–475.

This work presents a simple physically motivated definition of a uniform distribution for spacecraft attitude and derives the uniform probability density functions for the different attitude representations. The subject matter has its roots in studies of the Haar measure on compact Lie groups a century ago, but is presented here in very simple terms, and a number of new results specific to attitude measure are derived. This is the only paper on the subject which the author is able to understand. (See also the comment on 2000b for an interesting sidelight.)

This work lacks the numerical algorithms of 2001a , which were, in fact, due to or suggested by Robert Bauer.

Superseded 2001a, 2001b.