Attitude Determination of Spacecraft Using FOAM and Kalman Filtering

Authors: Deeptha Shree G, Vineeta Singh, Bijoy Kumar Dai and Sunitha R.

Abstract

The attitude determination of a spacecraft has attracted the attention of many researchers over the years. Attitude determination is a crucial part in implementation of reliable control systems for spacecraft. Attitude determination algorithms are broadly classified into two classes, deterministic algorithms and recursive estimation algorithms [12]. This paper aims to advantageously combine these two algorithms FOAM (a deterministic algorithm) and Kalman filtering (a recursive estimation algorithm) to give a more accurate estimate of spacecraft attitude by overcoming inherent sensor errors.