Neural Network Star Pattern Recognition for Spacecraft Attitude Determination and Cont

Authors: Phillip Alvelda, A. San Martin

Abstract: computational bottlenecksCurrently, the most complex spacecraft attitude determination and control tasks are ultimately governed by ground-based systems and personnel. Conventional on-board systems face severe serial microprocessors operating on inherently parallel problems. New computer architectures based on the anatomy of the human brain seem to promise high speed and fault-tolerant solutions to the limitations of serial processing. This paper discusses the latest applications of artificial neural networks to the problem of star pattern recognition for spacecraft attitude determination.