

SPACE DEBRIS SYMPOSIUM (A6)
Operations in Space Debris Environment, Situational Awareness (7)

Author: Mr. Alfredo Locarini
NPC/Spacemind, Italy, alfredo.locarini@gmail.com

Mr. Niccolò Bellini
Alma Mater Studiorum - University of Bologna, Italy, niccolo.bellini@gmail.com
Mr. Stefano Naldi
Alma Mater Studiorum - University of Bologna, Italy, naldi.stef@gmail.com
Mr. Davide Rastelli
Alma Mater Studiorum - University of Bologna, Italy, rastelli.net@libero.it
Mr. Marcello Valdatta
Alma Mater Studiorum - University of Bologna, Italy, marcello.valdatta@gmail.com
Mr. Normand Fullum
Telescopes Normand Fullum inc., Canada, telescopesnormandfullum@videotron.ca

M.O.R.A.L.: DESIGN AND PROTOTYPING OF ONE METER CLASS TELESCOPE MOUNT FOR
SPACE OBJECTS TRACKING

Abstract

The following paper deals with the design and manufacturing of a one meter class telescope mount specifically developed for space objects tracking. The project satisfies the requirements of high accuracy pointing for the monitoring of space objects in any orbital regime. The design methodology inherited from aerospace engineering can assure optimal structural performance in terms of vibration and stability, connected with fast and precise response in dynamic regime. The performances offered by the mount make its utilization suitable for tracking fast moving objects in LEO orbit, fundamental activities to support all the operations focused on the reduction of risks connected to the problem of space debris. The control system and the interface is specifically designed in order to offer the maximum of versatility, expanding the range of potential users from professional research institutes to all the associations of amateur astronomers. All the details concerning the performance and the design are pointed out in the paper and moreover the first results of the manufactured prototype will be highlighted, pointing out to achievements in pointing and tracking accuracy.