

Fine tracking for laser flux stabilization on an optical detector for space-to-ground laser link communication

One of the difficulties in optical telecommunication is to make sure the laser flux coming from the satellite arrives and stays on the optical detector at the OGS, which generally has a small field of view. A telecom satellite has a low altitude, and its prediction may not be very accurate, so it can be a real challenge to track it. One solution is to make a double visual servoing using one wide field camera to correct low frequencies errors of the prediction with the telescope, and one small field camera to control a tip-tilt mirror to correct the higher frequencies. The aim of this presentation is to present an implementation of this solution at Grasse OGS that was successfully tested.