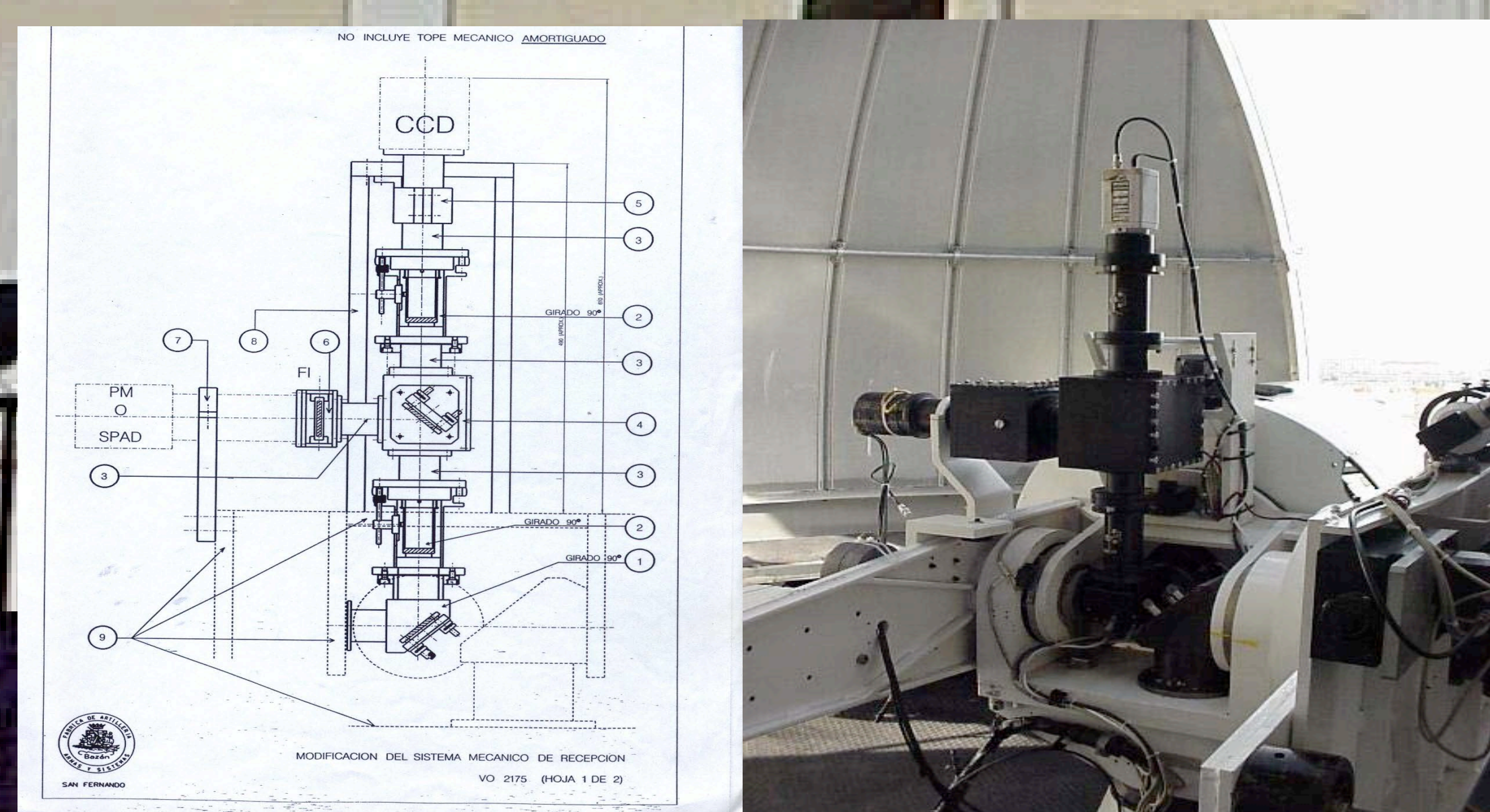




# SAN FERNANDO SLR STATUS AND FUTURE OBJECTIVES

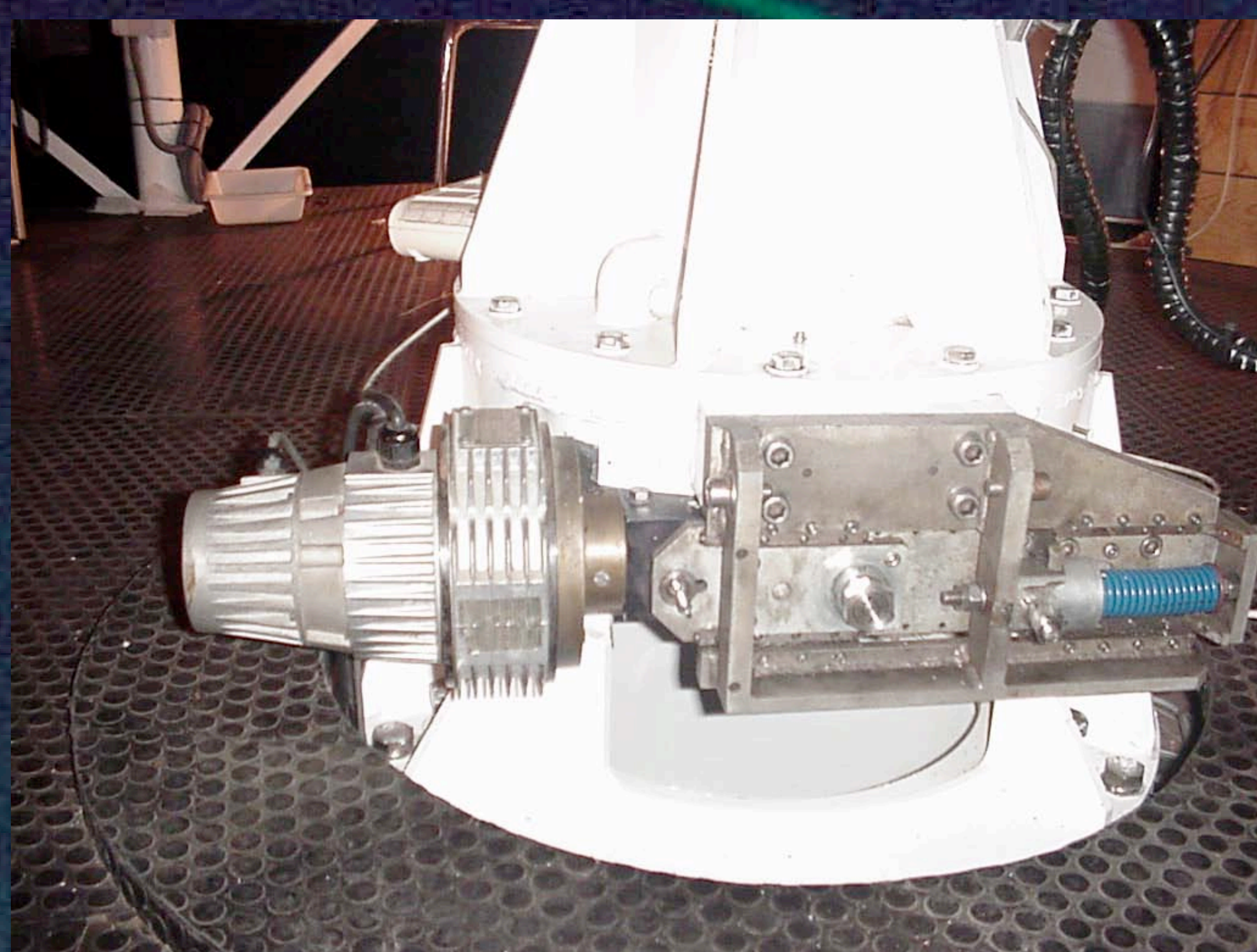
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San Fernando SLR station has been evolving along these years. We have got improvements in the infrastructure, coming from the replacement of the dome, to renewing of the installations where the equipments are located. As an example let us say that the new dome allows the station to track satellites even on moderate to high winds environment. This is not a minor effect, because the SLR facility is allocated in a windy area.



Quality of the tracking has also improved, since 2001 when the photomultiplier used as detector was replaced by a CSPAD, during night time. However, the photomultiplier is still used as detector on daylight.

Of course, tracking with CSPAD during daylight is the upcoming challenge for our SLR team. But in order to get this goal, some difficulties must be overcome



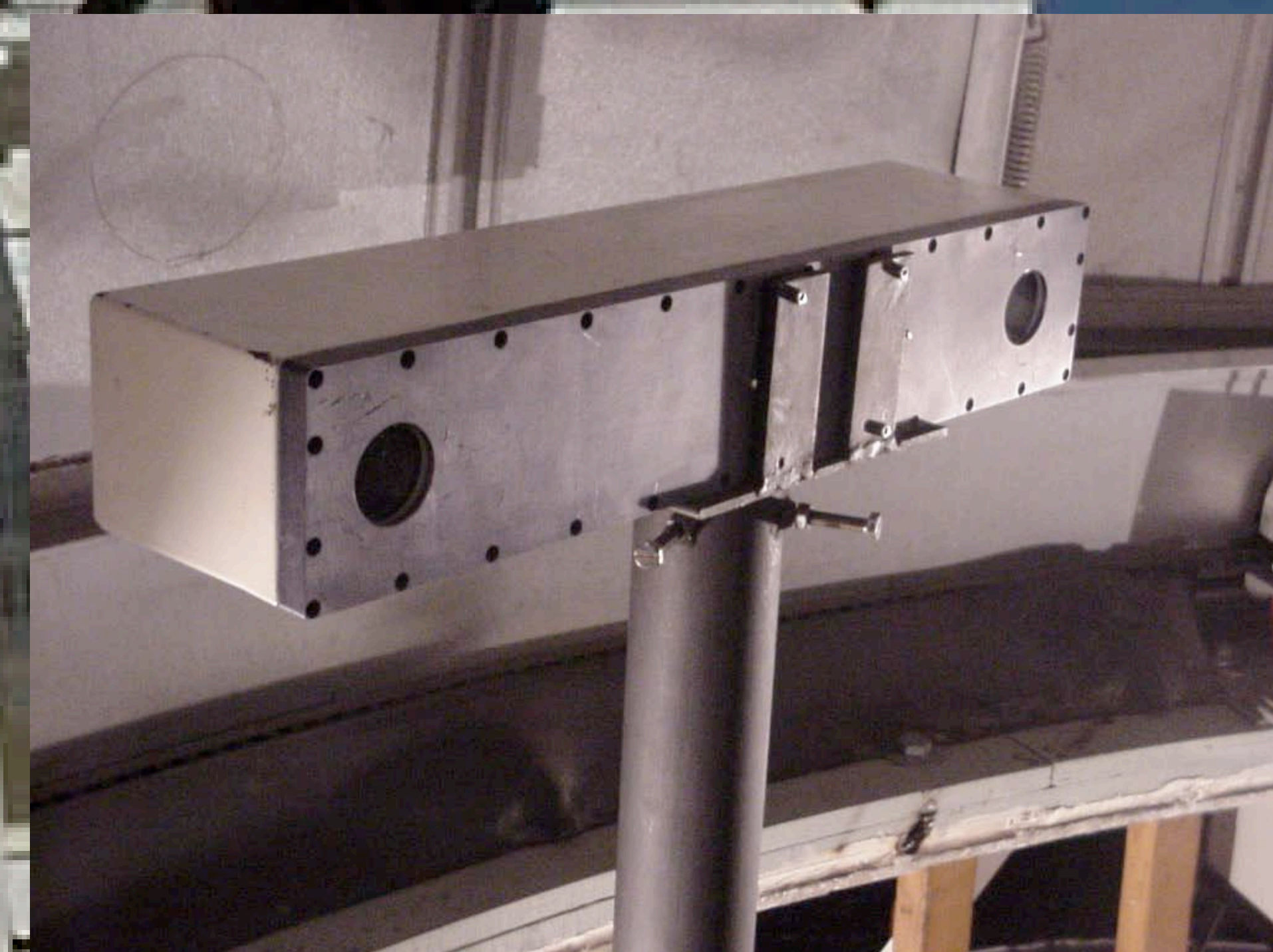
## The future:

As soon as we get daylight tracking with CSPAD, we have to move to new objectives. Our next step is to extend the range of the tracking from LAGEOS to High satellites. Particular attention is going to be paid to the tracking of GNSS satellites. We wish to be involved in the laser tracking on the upcoming European GNSS GALILEO, if satellites of this constellation are finally equipped with retroreflectors.

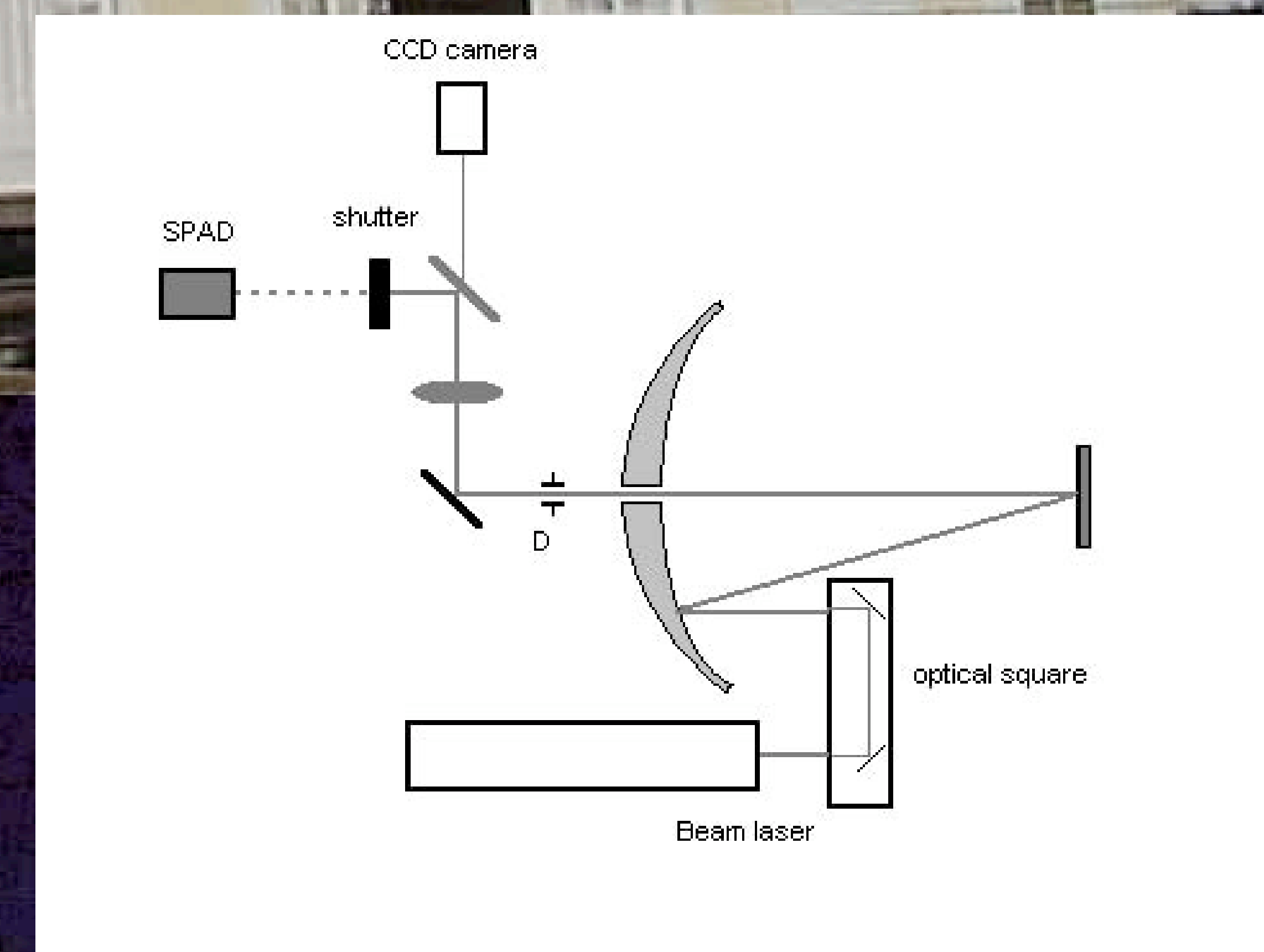
## ABSTRACT

The San Fernando SLR is involved in a process of constant evolution. In the frame of the Spanish Government researching projects support, the station is being prepared to be able to extend to three tracking shifts, by using CSPAD not only during night time but also during daylight. Some problems have to be overcome before we get this jump, i.e. a more accurate control of the horizontal movement of the telescope and a system to control the ray beam offset during daylight.

As soon as the station meets this goal, we will move to the next objective: the tracking of the highest satellites, ETALON, GLONASS, GPS and the coming GALILEO constellation.



1.- To improve horizontal movement by eliminating motor vibrations. A new docking system plus an electronic control device is going to replace the old mechanical system



2.- To be able to monitor the laser beam, in order to collimate it in real time. The implementation of an optical square will deliver the light back to the telescope. A CCD camera will detect collimation error. Correction will be made by moving the light beam at the laser bank output

3.- To rebuild the software. Old programs are written to work under DOS. To move to Linux, or Windows will allow us to work in a more efficient way, because new developments do not work properly under that old and limited operative system