Automation of Pic du Midi 2-m Telescope Bernard Lyot


Abstract: Since 2007, Pic du Midi 2-m Telescope Bernard Lyot is dedicated to spectropolarimetry with a scientific niche in stellar magnetism. In parallel, TBL is progressively evolving from an analog, human-controlled telescope, to a fully automated computer controlled digital telescope. This evolution required TBL to replace all electronics and motors with digital system (pavies, brushless motors, busscan components, and to integrate the dataflow system from proposal to archiving into a fully coordinated, remote-access software suite.

A trained technician can already control remotely the telescope, instrument and science programs from anywhere. Further networking will require a high-level expert system still to be defined.

New telescope control system

Control computer

7 Drives MOTION

7 Motors Brush-less

4 Encoders Heidenhain

Safety Beckhoff

BUS CANopen

End-to-end dataflow system

Phase I: Call for proposal

Optima/Starlink NorthStar software

Universal web access

Restricted web access

Phase II: Accepted programs preparation

TBL PH2 software

Phase III: Short-term scheduling = Observations

Universal web access

Restricted web access

Phase IV: Reduction + nightly data management

Pipeline Line-Expot + IDL

Phase V: Archiving / public release

TBL Legacy archive, VCP compliant

Universal web access

Restricted web access

VNC