

## SLR through a Slit!

The Zimmerwald Satellite Laser Ranging (SLR) station at the Swiss Optical Ground Station and Geodynamics Observatory Zimmerwald (SwissOGS) is providing high quality range data to the scientific community on a 24/7 basis and is the most productive SLR station in the northern hemisphere. The main science products to which the SwissOGS is significantly contributing are the International Terrestrial Reference Frame (ITRF), a central reference point to tie the Swiss geodetic network and the Automated GNSS Network in Switzerland (AGNES) to the ITRF, the observation of the center of mass of the system Earth, Earth orientation parameters, and the spatial and temporal variations of the Earth's long-wavelength gravity field.

On June 24, after more than 4 years of preparatory work and 4 months of construction work, the satellite laser ranging (SLR) system at the SwissOGS was equipped with a new dome (Figure 1). In future the laser will pass through the slit of this new dome on its journey towards satellites and back. The old dome was a so-called allsky dome which, when open, exposed the SLR telescope to full sunlight during daytime. The new dome shall significantly reduce the thermal load on the telescope during daytime operation and thus increase the yield substantially. After dismantling the old dome (Figure 2), the telescope was protected with a wooden cover during construction work (Figure 3). The general refurbishment included the installation of a new climate control and equipment cooling system, as well as the insulation of the building dating from 1976.



*Figure 1: The new slit dome protecting the Zimmerwald Laser Ranging and Astrometry Telescope ZIMLAT was put in place on June 24, 2022.*

*Figure 2: Dismounting of the old all-sky dome.*



*Figure 3: ZIMLAT protected by a wooden cover.*

