

Concept for a new minimal SLR system

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To improve the global coverage of SLR measurements and to keep up with the growing number of missions, new SLR stations will be needed around the world. However, local scientific communities often find it hard to acquire the funding necessary to deploy and operate a conventional SLR station. German Aerospace Center is currently developing a new minimal SLR system with the goal to improve this situation. The miniSLR system is fully integrated in a box smaller than 2x2x1.5 metres and consists of only a minimal set of devices indispensable for standard SLR operation. A simple design and the use of standard components keep the investment costs at a minimum and facilitate on-site maintenance. Transmitter and receiver telescopes are located on the two sides of a direct drive Alt-Az mount. The detector package and the laser system are installed on the mount itself to avoid a coudé path. The 100 kHz laser ranging technology developed for the Stuttgart SLR station is used here as well and allows for a small yet powerful laser that can be integrated on the mount. A 19" rack contains all other components, such as the control PC, event timer and the time source. The whole system is fully sealed and air-conditioned. Completely automatic operation is envisaged to reduce running costs and operation in remote areas. This contribution will present the current status of the design and first hardware tests.