

# Lidar system on Kiev SLR 1824

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- Main astronomical observatory of NAS of Ukraine, Kyiv

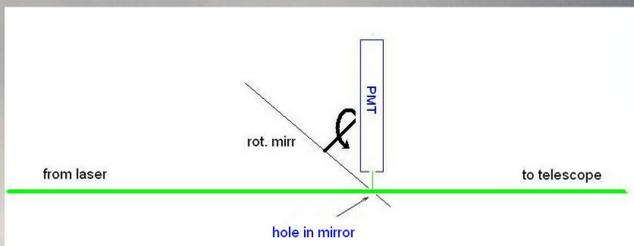
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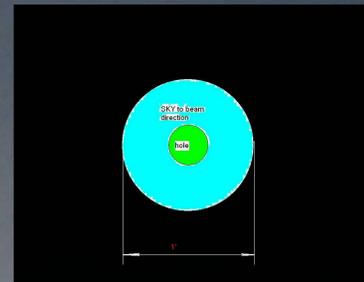
## ABSTRACT

The main astronomical observatory of the National Academy of Sciences of Ukraine developed an additional module for the laser station, which will at the same time measuring the distance to the satellite to determine the state of the atmosphere along the line connecting the telescope and satellite. Features of the telescope optical system of the TPL-1, which is used at the station Golosiiv-Kyiv 1824 allows you to use the system to determine the state of the lower atmosphere during laser satellite observations.

The poster presents the telescope optical scheme, a block diagram of electronic components developed for lidar data.



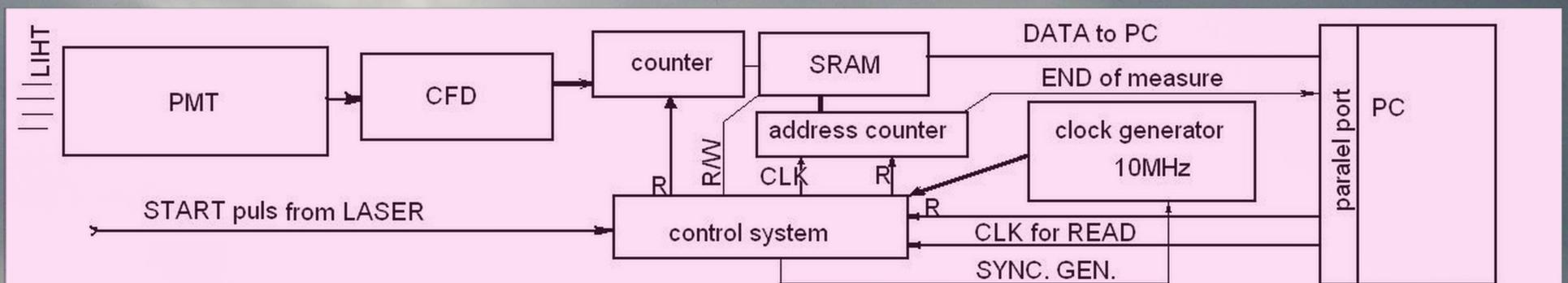
a schematic diagram of the transmit/receive part of the system



Field of view the PMT

### Advantages of this system:

- a small field of view of the photomultiplier = small noise from the night sky
- receiving information from a **ZERO** distance from the telescope
- Use standard receiver system
- High sensitivity (1m telescope)



Block diagram of the electronic components

Backscatter fixed separated photons (the picture on the oscilloscope).  
It is possible to use the simple counter, not the ADC  
This system is testing now

### References:

1. G.Kirchner, F. Koidl, D. Kucharski. Graz kHz SLR LIDAR: First Results, Proceedings of the 16th International Workshop on Laser Ranging
2. O. V. Bolotina, Yu. M. Glushchenko, M. M. Medvedskii, et al., "Satellite laser ranging station 'Golosiiv-Kiev'. Technical Characteristics and Results of Observations of 2001," Kinematics and Physics of Celestial Bodies 17(6), (2001).