

ONE MORE MODERNIZATION OF THE PANCAKE PHOTOMETER

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Abstract. Observations in the 1999 April WET campaign with the renovated 165 cm telescope of the Molėtai Observatory convinced us that it is necessary to have a CCD guider in the photometer. And SBIG 4 guider was attached to the photometer as one more modernization.

Key words: instrumentation: photometers

The Pancake's flat surface for a long time served as some sort of testing ground for many inventions of the Vilnius laboratory (Kalytis 1997), and now it contains lots of unusable furrows and holes witnessing those numerous tests. On the other hand the photometer was always in working condition with some improvements, and available for every WET campaign since it was built in 1992 (Meištas & Solheim 1993), as a lightweight and easy transportable one suitcase instrument.

In the summer of 1998 both mirrors of the 165 cm telescope of the Molėtai Observatory were recoated at the Carl Zeiss factory, and old Russian-made computer and interface were changed to an IBM machine and standards. We decided to participate in the 1999 April WET campaign as the first observers on the refreshed telescope.

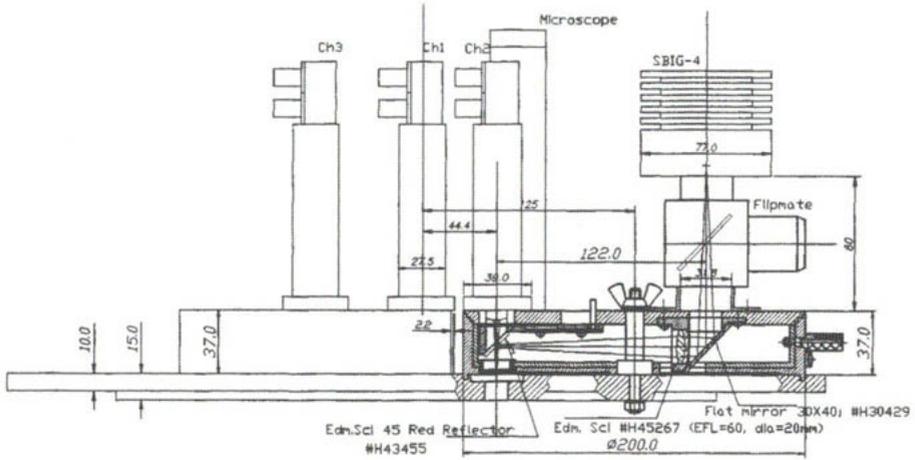


Fig. 1. Side view of the modernized Pancake

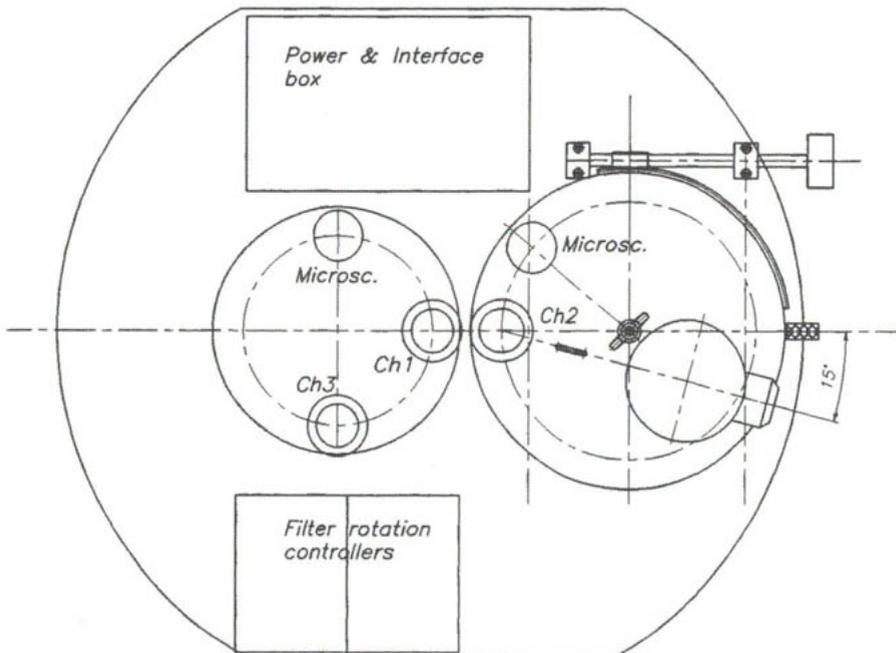


Fig. 2. Top view of the modernized Pancake

However it happened that after those renovations and till the campaign started, our technicians were not able to restore positioning and tracking of the telescope even to the level it had before, and we had to check Channel 2 (Ch2) every three minutes to collect at least acceptable data.

We expect that telescope tracking will be much better in future, when more careful adjustments of the electronics and of the mechanical parts will be made, when the telescope deviation values from the positions will be taken into account by the new software. However, remembering our experience, when we were observing with this photometer even with the quite good tracking telescopes, we had to check Ch2 at least every 30 minutes, and the second channel interruptions spoiled obtained data, we decided to install 45° red reflection dichroic plate and SBIG 4 guider into Ch2. Except of the ability to obtain more reliable data even if this or any other telescope to be used with the Pancake would not track good enough, we were thinking about much more comfortable working conditions for the observers too.

It appeared that it was not possible to place the CCD guider into the housing of the old Ch2, and it was necessary to redesign it completely. The drawings are converted into hardware now, and the first tests of SBIG 4 were successfully completed. It appeared, that even when SBIG 4 connection for the automatic guiding was not completed yet, it was quite comfortable to make adjustments of Ch2 star position looking to the monitor screen in the control room, and it was pleasure to get data without breaks in the Ch2.

Because just before the 1999 April campaign channels Ch1/Ch3 were redesigned into the special rotator to make both channels looking to the sky directly, without any prisms, the Pancake at present is much more user friendly instrument, and it is more suitable for collecting high quality WET data even with quite badly tracking telescopes. The drawings of these renovations are shown in the Figs. 1 and 2.

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