Contrib. Astron. Obs. Skalnaté Pleso **49**, 148 – 150, (2019)

Current status of the Milanković telescope

P. Kostić, O. Vince, S. Samurović and A. Vudragović

Astronomical Observatory Belgrade, Volgina 7, 11060 Belgrade, Serbia

Received: October 28, 2018; Accepted: January 24, 2019

Abstract. The Milanković telescope is a 1.4 m telescope installed at the Astronomical station Vidojevica on a mountain in south Serbia. The telescope was procured through the FP7 REGPOT BELISSIMA project with the support of the Serbian Ministry of Education, Science and Technological Development which started in 2010 and was finished in 2016 by setting up the telescope in the temporary pavilion. With an ultimate goal to make the telescope robotic, we have built a new pavilion and provided several modern instruments. Here, we present our 1.4 m telescope, its past/present status.

Key words: Milanković telescope

1. Introduction

The Milanković telescope is now in its third year of operation at the Astronomical station Vidojevica. During September of last year it was moved from temporary to the new pavilion, under the newly finished dome. In the following days and nights the telescope was collimated and we made the rough pointing model for slewing. Right now (the end of September 2018) the dome is in process of automation after which the telescope pointing model will be made so it could be ready for further normal usage. We present our new pavilion and dome along with some pictures of transferring works.

2. New pavilion and dome

The construction of the new pavilion, which is being carried by a Serbian company, is practically finished. It has three levels: the ground level where the control room is placed, plus two floors. The first floor is an empty room which functions mainly as a thermal isolation between the control room and the second floor, where the telescope is mounted. The new dome was manufactured and mounted by the Italian Gambato company in June 2018. It is a reasonably light construction of 7 meters in diameter, so it can make the full circle for around a minute, which is comparable with the rotation speed of the telescope itself. It has the heating mechanism against the frost in the door and in the azimuth circle. In the next period we intend to make the telescope fully remotely controlled, but the ultimate aim for the future is a fully robotic telescope.

Figure 1. Left: Raising the telescope to the door of the new dome. The tube with the secondary mirror was detached and moved separately. Right: The telescope seen from the new dome.

3. Telescope and instruments

The Milanković telescope is a 1.4 m Nasmyth-Cassegrain reflector with four ports of which two are equipped with de-rotators. The focal length is 11.2 m, except for the one with the de-rotator which is equipped with the field corrector that makes the focal length shorter, 10.5 m, and provides about a half degree field of view without significant optical aberrations. Vince et al. (2018) gave a more detailed review of the telescope and its parts. The telescope, produced by the Austrian ASA Astrosysteme GmbH, was procured through the FP7 REGPOT BELISSIMA project with the support of the Serbian Ministry of Education, Science and Technological Development. The project started in 2010 and was finished in 2016 by setting up the telescope in the temporary pavilion. In June 2018 the primary and secondary mirror were sent by the ASA company to the Carl Zeiss Jena factory for re-aluminization and it came back to the new pavilion with new coating. The instruments for use with Milanković remained the same ones as listed in Samurović et al. (2018) and Vince et al. (2018):

– an ANDOR iKonL CCD camera: 2048×2048 pixels, the pixel size is 13.5×13.5 μm, the field of view at the telescope $9' \times 9'$;

- an Apogee U42 CCD camera: 2048×2048 pixels, the pixel size is 13.5×13.5 μm, the field of view at the telescope $9' \times 9'$;
- an ANDOR iXon3 Ultra 897 CCD camera: 512×512 pixels, the size of the pixel 16×16 μm;
- a Spectrograph SpectraPro 2750 by the Princeton Instruments. Type: Cherny-Turner with 3 gratings 300, 600, 1200 lines mm^{-1}, with resolutions 44, 22, 10 Å mm^{-1} and spectral ranges 1120, 560, 250 Å. The resolving power is $R = 9300$, 5400 and 3200 for slits of 5 μm, 10 μm and 200 μm, respectively.

Acknowledgements. This work was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia through project no. 176021, Visible and Invisible Matter in Nearby Galaxies: Theory and Observations. We thank the Ministry of Education, Science and Technological Development of the Republic of Serbia for the continued support related to the construction works at the Vidojevica Astronomical Station. We acknowledge the financial support by the European Commission through project BELISSIMA (BELgrade Initiative for Space Science, Instrumentation and Modelling in Astrophysics, call FP7-REGPOT-2010-5, contract No. 256772).

References

Samurović, S., Djurašević, G., Cvetković, Z., Pavlović, R., & Vince, O., Telescope "Milanković": mounting, present and future work. 2018, *Publ. Astron. Obs. Belgrade*, **98**, 333

Vince, O., Samurović, S., Pavlović, R., Cvetković, Z., & Djurašević, G., The first year of the "Milanković" telescope. 2018, *Publ. Astron. Obs. Belgrade*, **98**, 233