



Importance of citizen Czech Astronomical Society for variable star and exoplanet research

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Variable Star and Exoplanet Section of Czech Astronomical Society (VSES CAS) is a citizen astronomy organization with almost century tradition in basic and advanced research on variable stars in Czech Republic. Members are formed both amateur and professional astronomers all age groups, including youths and students. VSES CAS is primary focus on observing variable stars and exoplanet, education and training of astronomers. The society annually organizes workshops, meetings or conferences for astronomers and many popularisation activities intended for general public. Many amateur astronomers also meaningfully contribute to professional astronomy with unquenchable enthusiasm, precise photometry reduction or acquiring photometric data with hardware similar to professional surveys.

Some of the VSES projects have global impact. Database B.R.N.O. collects data of light curves of eclipsing binaries from observers. Since 2007, more than 19,000 minima timings from hundreds observers has saved to database. After revision, the contribution of times of minima are regularly published in Open European Journal of Variable Star. Project MEDUZA was focused on long-period variable stars. The database contains observations more than 1346 objects obtained both visual and CCD methods. The most important international project is Exoplanet Transit Database (ETD). The database administrators are periodically checking for new transits - both in literature and in on-line internet sources. The ETD also offers modern online fitting tool for publication of data of observers. Observers can plot their own observations in diagrams, finding out parameters HJDmid, depth, duration or global transit predictions. From 2008 to now, more than 8400 transits observed by observers from around the world are published in ETD.

The members of VSES CAS operate and develop the observing remote-controlled setup of Newton 150/750 telescope and cooled CCD camera situated in Valasske Mezirici Observatory. The telescope is used mostly for observing campaigns, cooperation with profesional astronomers or student research projects. The results obtained using this telescope was also published in several international projects. Recently, the telescope is mostly used for follow-up observations of TESS exoplanet candidates.

In VSES, we have now started developing a new generation of our web application. One of the goals is improved user experience and consolidation services, which were put together over a long time and using some now outdated technologies. New applications should reflect recent trends in modern astronomy and represent complete service for data processing, publishing observations, cloud storage, platform for campaigns and projects also social network between observers in around the

world.

New pro-am international cooperation on projects of variable stars and exoplanet, and important results of VSES members will be also presented.