

**ASTRONOMICAL OBSERVATORY SARAJEVO:  
PAST, PRESENT, FUTURE**

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**Abstract.** Activities of Astronomical observatory Sarajevo in the past and today and future plans are presented.

Not having a single serious astronomical instrument, Bosnia and Herzegovina is currently a dark spot of Europe. The presence of astronomy, especially practical astronomy in educational system is insufficient. In the period between 1963 and 1992, astronomy in Bosnia and Herzegovina has been quite developed, although there hadn't been any tradition in that field. Astronomical observatory Sarajevo has been a beacon of new times in entire former country. Echo of those astronomical activities is still present nowadays, through oral and written memories of many.

First astronomical activities in Bosnia-Herzegovina we can place somewhere in the fifteenth century when, from religious and secular reasons official calendars and time keeping started. After second World war there was few attempts for establishing an observatory. The start of modern astronomy in Bosnia and Herzegovina is connected with a foundation of the first astronomical organization, back in 1963. First name was "Academic astronomical astronomical club" Sarajevo. First president was Dr Božidar Popović who few years later move to the University of Belgrade. Last name of the Society in late eighties was "University astronomical society Sarajevo".



Figure 1: Foundation of Academic astronomical astronomical club in 1963.

The most important results of multi-decade functioning of Astronomical Society Sarajevo were construction and activity of the first astronomical observatory in Bosnia and Herzegovina. This observatory locally operated under the name Astronomical Observatory olina Kapa, but internationally, the name Astronomical Observatory

Sarajevo was used. It was a place of wide-ranging popularization of astronomy, amateur, professional and scientific work in this field. It had a great regional importance within entire former country, and results of its activities still exist. During the war in Bosnia, the entire complex of observatory, with all domes and instruments was devastated.

Old austro-hungarian fortress on Trebević, 1003 m sea level, was given from town of Sarajevo to the Society for use as an observatory in the year 1967. In the period between 1968-1973 on the fortress we builded two domes (3 and 4,5 meters diameters). In smaller dome we had double astrograph with cameras 83/375 mm. With this instrument we made Photographic Star Atlas (Sarajevo Atlas of the Sky). In period from 1972-1978 on the one thousand Kodak glass plates 9x12 cm (emulsions 103a-E and 103a-O) all sky north of Dec -10 was recorded. Limiting magnitude was 14.6. All glass library was missing during the siege of Sarajevo. In bigger dome, in the beginning we had 30 cm Newtonian who at the end of eighties was changed with 40 cm Cassegrain photoelectric telescope.



Figure 2: Old part of the observatory with two domes. In front there are foundations for a new buliding. (Middle of seventies).

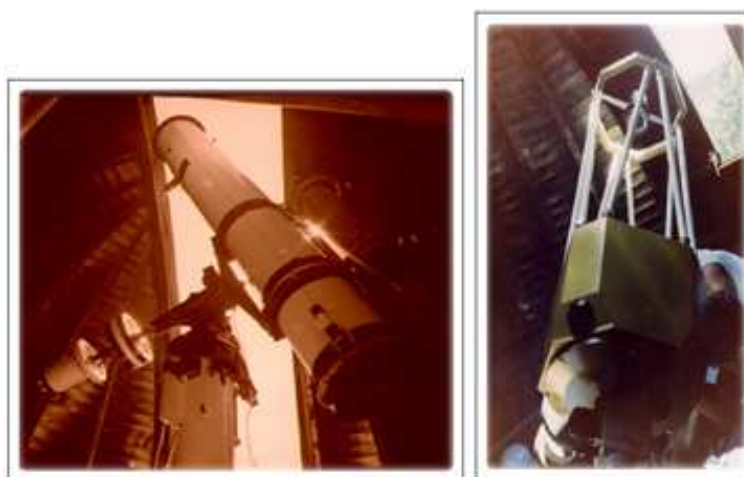


Figure 3: Left: 30 cm Newtonian reflector. Right: 40 cm Cassegrain telescope.

After finishing of the first phase, Astronomical society Sarajevo had unique opportunity to purchase a big Cassegrain reflector 0,62/12,40 meters. Close to the fortress in the period between 1975-1982 we builded a new four floor tower with 8 meter dome. Telescope started with first observations in the middle of eighties. We worked on photoelectric photometry of Be and shell stars in the frame of international co-operation with observatories Ondrejov in Czeck republic and Hvar in Croatia.



Figure 4: Left: New part of the Sarajevo observatory. Right: 62 cm Cassegrain reflector.

Since 2005/2006 at Faculty of Science in Sarajevo, Department of Physics offers course in Introduction to astronomy for freshmen year. Given that about the same time Department purchased a telescope (MEADE LXD 55), practical activities of students and teaching staff begun. One of the projects was observation of asteroid Astartea occultation in June 2008. Gathered around these activities, a small group of students and teaching staff started to organize lectures and observations for students and broader public with the aim to promote astronomy. This group joined to the Astronomical Society Orion as a legal successor of former University Astronomical Society.

Astronomical Society Orion Sarajevo becomes involved in all major global projects in IYA2009, such as Global astronomy month, Galilean nights etc. Documentary "Eyes to the Sky" filmed for IYA2009 was translated and DVD purchased to be distributed in primary schools all over BiH. Public lectured have been organized in Sarajevo for broader audience, such as Mission Kepler: quest for similar worlds. With Norwegian Embassy and NATO forces in BiH support, in 2009, AD Orion started with implementation of the largest project on popularization of astronomy in BiH - Project 1000 Galileoscopes for 1000 schools in BiH - one sky for all". Within this project 1000 small telescopes - Galileoscopes and tripods have been purchased and distributed in schools in every primary school (about 800) all over the country. The project is still ongoing.

Upon establishment of AD Orion preparatory work on reconstruction of Trebević observatory begins. AD Orion signed an agreement with town authorities about usage of observatory and architectural drawings for the reconstruction were made. More intense usage of observatory plateau for organization of public observations (eclipse of the Sun and the Moon, meteors rain, planet oppositions...) begins with this. For those with greater interest in astronomy, courses in astronomy have been



Figure 5: Left: Official banner for "Galileoscope project". Right: One of presentation and distribution of the telescopes to Primary schools.

organized on weekly basis. In addition to lectures, these gatherings are used as an opportunity to write project proposals for future popularization of astronomy in the country, particularly amongst primary school students. Within one of the projects three telescopes Celestron NexStar 4 have been purchased that are being used now for public observations.



Figure 6: Day and night view of the destroyed observatory Sarajevo.

Our plan is to start with restoration of the observatory in 2 phases. In the first one we are going to reconstruct austro-hungarian fortress. It will be multifunctional object with small observatory on the roof and room for lectures with small digital planetarium. We finished draft project for the first phase and now we are working on providing necessary papers and permissions and, of course, looking for sponsors. In the new building robotic telescope 50-60 cm is planned in second phase of the reconstruction.



Figure 7: View of the future observatory Sarajevo.

Future observatory is envisaged as multimedia educational centre, with 40 cm telescope under 4 meter dome, mobile planetarium and dormitory for primary and high school students participating in schools of astronomy.