

CONCLUSIONS

NASE course in Russia. August 2023.

Astronomical course number 371 was held during an astronomical festival on which the teachers and their students gather together on one place for six days. The place is the village Mishelevka 120 km north-west from Irkutsk, Siberia, Russia.

In this event 33 students and 12 teachers.

Throughout all of the festivals' activities the lectures and workshops of NASE become one of the most valuable.

As the director of Planetarium of Irkutsk and the chairman of Irkutsk Regional Astronomical Organisation I have designed the astronomical part of the festivals' program. The greatest advantage of the festival was the clear weather conditions during all days and especially nights of the festival.

We start the program with the globe of the Earth and its' terminator and with the gnomon and the determination of the meridian line on the surface of the Earth.

Then, having these data, we move to the building of the celestial sphere.

Thus, we not only "theoretically" built the celestial sphere model incorporating the photos of horizon line, but for every night follows, we have got the photos of the star tracks (15 to 60 minutes timing) of different parts of the sphere: Polaris star and close to it, North, South, East, West, Equator and Zenith directions.

These photos that we have made on film, showed the differences in motion of stars and planets in different parts of the sphere. Moreover, we documented the movement of the rises and sets points of the Sun and the Moon along the horizon line, thus highlighted the movement of the Sun and the Moon itself.

These experiments were reinforced with the demonstration of the Stellar, Sun and Lunar demonstrator in the following days.

On the demonstrator's workshops everyone made his own model of the sphere and can easily managed the appearance of the constellations

(which they have observed during the night sessions) under the horizon as well as the changes that come with the motion of the Sun along the ecliptic line, i.e. changing the Declination of the Sun and Moon.

Also all the students and their teachers were exposed to the fact and explicit explanations by the demonstrator how the stars' track looks like on the equator and on the poles of the Earth.

Also, we have organized the lunar and solar eclipses in one single day:) and have measured the distance to the Sun with the help of one and a half meter long Obscure camera.

Needless to say about a long hours which all of the students have spent looking at the stars, galaxies, planets, nebulae through the telescopes. We also have noted the rotation of the Sun (on the basis of solar spots motion along the disk) and the rotation of Jupiter's satellites.

The teachers which took part in astronomical festival and NASE activities were highly amazed with the simplicity and the appearance of these easy to do methods in explanation of the basic and important concepts of astronomy.

The teachers are motivated to utilize these techniques in their activities throughout the vast territory of Siberia they are from.

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