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Official Newsletter

Atrolabe

3rd International Olympiad on Astronomy and Astrophysics

Oct. 23, 2009 Tehran-Iran



SUCCESS!!

TODAY'S PROGRAM

STUDENTS

Visit to Tochal Gondola Lift

Meeting the the members of the Nijavian Astronomy Center

TEAM LEADERS

Visit to Tochal Gondola Lift

Visit to the Residence of Late Ayotollah Khomeini and the Adjoining Museum

3rd
IOAA
International Olympiad on
Astronomy and Astrophysics
Tehran, Iran, Oct. 17-26, 2009





▶▶ *Silk Road Storm*

During November 1998, the Leonid meteor shower surprised many around the world with its magnificent storm of numerous bright meteors and fireballs. As our Earth passes close to debris expelled from the comet Tempel-Tuttle, many sand-sized particles from this comet enter the Earth's atmosphere and burn up. This yearly phenomenon is known as the Leonids Meteor Shower. The shower is in general a weak display of 10-20 meteors per hour at the peak time. But each three decades as the mother comet approaches the Sun (and the Earth) along its elongated orbit, for one or several years the shower turns into fascinating storms. As the shower peak lasts one or a few hours, observers located at favorable longitudes where the meteor radiant (in the constellation Leo) reaches high in the sky during the pre-dawn hours, experience the best display. In this 20-minute long photographic exposure on a film camera, 17 meteors are captured over the historical caravanserai of Deh-Namak located on the Silk Road in Iran. Blazing through the sky at 70 kilometers per second, 100 kilometers or so above planet Earth, many bright Leonid meteors left behind a persistent smoke-like trail of glowing, hot, ionized gas.

A group of researchers has made a favorable prediction for the 2009 Leonid meteor shower. The most favorable conditions are predicted for Asia, especially at longitudes of India, Nepal, western China, and southern Siberia in Russia, where the shower may reach a storm level of 500 meteors per hour in the early morning hours of 18 November, 2009.

▶▶ *A Talk with Mohsen Djamaali, the Head of the Young Scholars Club, and Head of the Organizing Committee of IOAA*

How did Iran come to host the IOAA?

Iran has been taking part in IOAA for seven years now, and according to the statutes of IOAA, the member countries should take turns to host the Olympiad. We proposed to host the Olympiad last year and of course Brazil also wanted to host the Olympiad. Because of the very positive response to our hosting of the 2007 International Physics Olympiad which was held in Isfahan, and also because we had taken part in previous Olympiads and ranked first in one of them, our proposal was accepted.

This year is the International Year of Astronomy, and the International Astronomical Union held its general assembly in Brazil, so they very much wanted to have the Olympiad there too, so that their collection of activities would be complete. Of course, Iran has also been a very actively involved in the International Year of Astronomy and has been a participant or the instigator of some projects associated with this year.

What is special about this year's Olympiad?

The first thing that is special about this year's Olympiad, is its coinciding with International Year of Astronomy. Then there is the fact that we have several thousand amateur astronomers in our country which is unprecedented as far as the previous Olympiads go. So even if we do not consider the history of Iran's contributions to astronomy, this makes Iran a country very much associated with astronomy.

What was the most difficult task in preparing for the Olympiad?

Well, one can say that there was nothing easy about it! But the most difficult task was holding the opening ceremonies. Of course it was not difficult to plan for it, but the amount of coordination required to carry it out properly was staggering. We are hoping that the closing ceremonies will involve fewer difficulties, since some of the required coordination is already in place.

What part of the Olympiad was most satisfying?

Today I attended the Photometer Workshop in the camp and it seems to me that the participants in this workshop were very happy. I think planning these workshops alongside the Olympiad was a very good idea. Also, the closed-circuit cameras which allowed the leaders and even members of participants' families watch the students as they were taking the exam, was exciting. The other part with which I am quite happy, was the computerized voting which was carried out for the first time in IOAA. The leaders and the officials could both make their views known and vote online. In fact, Mexico has told the Young Scholars Club that they would like to buy this software which was developed in the Young Scholars Club.



▶▶ *Wednesday at the Olympiad*

10:30 AM

The students attended the Photometer Workshop. In the workshop, every 3 or 4 students gathered around a table which had all the necessary tools for building a photometer, including all the boards, circuits, transistors, etc. They assembled the photometer step by step according to the instructions given to them. The Workshop ended at 1 PM and the students took with them what they had constructed along with the accessories.

3 PM

All the students went to Hall No. 3 for getting to know the history of astrolabe and learn how to construct one. They took with them the astrolabe they had constructed during the workshop as a souvenir.

5 PM

All the students, along with their team guides and other officials, went to watch the Iran-Italy Circus (at the Eram Park).



SAY CHEEEEEEESE!!



3rd International Olympiad on Astronomy and Astrophysics



The students take a picture with the performers of the Astronomy Show



The last practice session before the experimental exam

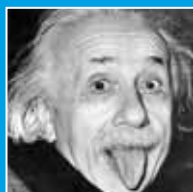


Photos: Ehsan Mehrjoo, M.J Torabi



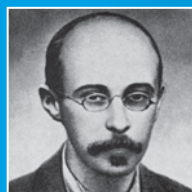
1915 CE

Albert Einstein publishes his general theory of relativity.



1922 CE

Alexander Friedmann discovers the expanding-universe solution to the general relativity field equations.



1924 CE

Edwin Hubble proves that the galaxies are objects residing inside the Milky Way.





Many did not expect the weather to be this cold



The Astronomy Show



1930 CE

Clyde W. Tombaugh discovers planet Pluto.



1931 CE

Karl Guthe Jansky creates the field of Radio Astronomy.



1957 CE

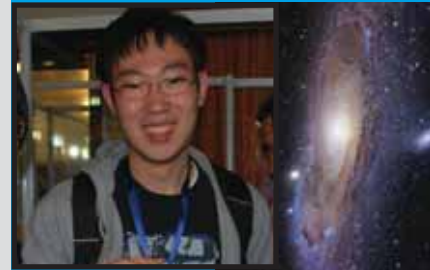
The Soviet Union puts the world's first ever artificial satellite into orbit.



- Q**
- 1- Which instruments do you use for observing the sky?
 - 2- What are your favorite astronomical objects to observe?
 - 3- What would you like to tell everyone in 3rd IOAA?
 - 4- Was there anything that surprised you when you came to Tehran?

Kim Dong Hyeon, Republic of Korea

- 1- When I observe planets or clusters, I use a small telescope. But usually I observe the sky with naked eyes.
- 2- The Andromeda Galaxy, I can find it very easily and it is the most beautiful celestial body.
- 3- I want to make a lot of friends in the 3rd IOAA. Let's be friends! I want to be in contact with you forever.
- 4- The kindness of Iranians



Niloufar Nilforoushan, Iran

- 1- Mostly telescopes.
- 2- M42 in the Orion nebula, and M29, a cluster in the constellation Cygnus.
- 3- I wish happiness for everyone in this Olympiad.
- 4- Nothing special, because, actually I am from Tehran.



Lysorng Oeng, Cambodia

- 1- A telescope.
- 2- Libra.
- 3- I like the people I have met here, everyone is so friendly. I love Mahsa, our team guide.
- 4- The landscape.



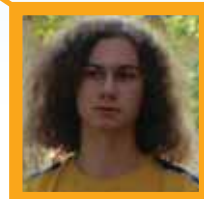
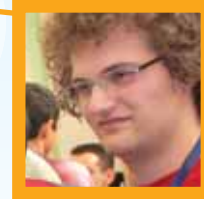
MD. Shahriar Rahim Siddiqui, Bangladesh

- 1- A telescope.
- 2- Nebulae, planets, comets.
- 3- This has been the best 10 days of my life so far, I have made a lot of friends, and Iranian food tastes great.
- 4- Simple answer: EVERYTHING! But I must add, Iran and Bangladesh have a lot in common.



How much have you got to know your friends?

These 8 students are all participants in this year's IOAA. You should know them well. If you write their first names in the space provided, the answer we have in mind will be revealed in the central column. You can later check the answer on the next page.



A word search grid with a central column highlighted in pink. The grid is 10 rows by 10 columns. The central column contains the letter 'B' in the 5th row. Lines connect the portraits of 8 students to various empty cells in the grid.

Q: What was the name of the first satellite to orbit the Earth?

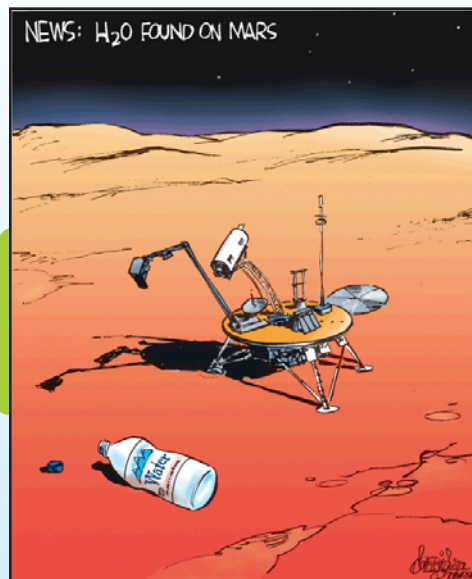
A: The moon.

Q: How far can you see on a clear day?

A: 150 Million kilometers...From here to the Sun.

Q: How do you know that Saturn is married more than once?

A: Because he has lots of rings.



ASTRO-JOKES!!



Photo of the Day

The First Ever Analemma

If you take a picture of the Sun at the same time each several days (on one single frame), the shape traced out by the Sun over the course of a year is an analemma. The Sun's apparent shift is caused by the Earth's motion around the Sun when combined with the tilt of the Earth's rotation axis. The Sun will appear at its highest point of the analemma during summer and at its lowest during winter. Analemmas created from different Earth latitudes would appear at least slightly different, as well as analemmas created at a different time each day. The above (?) analemma was built up by Sun photographs taken from February 27, 1978 to February 17, 1979 from New England, USA.

Dennis di Cicco.



IYA 2009 Projects in 209 Words StarPeace

The sky attracted human attention from a long time ago, but human beings who have not captured any planet except for the Earth, demarcated it according to their differences and created borders to divide the humankind. Today, the sky holds the same attraction it did thousands of years ago for human beings. Not only does the greatness of the universe stand in contradiction to its demarcation, but its sense of wonder gives the humankind a chance to think about the origin and destiny of the cosmos.

StarPeace project is one of the Special Global projects of IYA 2009 whose goal is to connect different countries by conducting joint star parties for people living on the two sides of land or sea borders. It requires the cooperation of astronomical groups from both neighboring countries. These groups shall hold common public star parties in regions around their borders. The political border separates them, but the sky, being the same everywhere, acts as a bridge to join them and all the people around the world regardless of race, culture, or nationality. Organizing committee of the Project StarPeace eagerly asks all the active astronomy groups from all around the world to join this project and hold star parties around their countries' borderlines.

www.StarPeace.org

Weather Forecast for Tehran

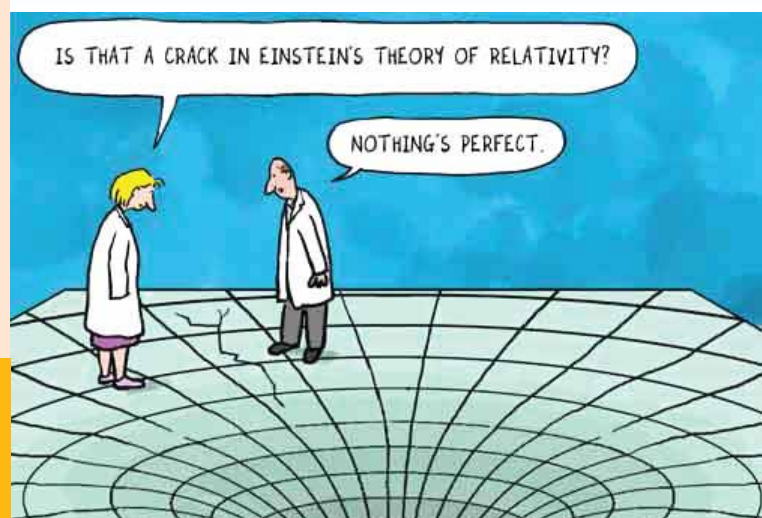
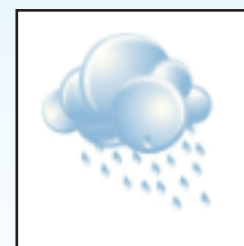
TODAY

Mostly Cloudy
High: 21 °C
Low: 12 °C



TOMORROW

Showers
High: 21 °C
Low: 12 °C



"How much have you..." answer:
(from page 7)

ASTROLABE

Astrolabe

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