

॥ ज्ञानस्य निर्मलं नेत्रं ज्योतिष्यकमनुत्तमम् ॥

Jyotirvidya Parisanstha, Pune

(India's Oldest Amateur Astronomers' Association)

Foundation: 22 August 1944; Ganesh Chaturthi, Shak 1866



Year: 2012-13

69th Year

Annual Report



॥ जानस्य निर्मलं नेत्रं ज्योतिष्यकमनुत्तमम् ॥

Jyotirvidya Parisansta, Pune
2012-13 : 69th Year
Annual Report

The Governing Council of Jyotirvidya Parisansta is very pleased to put forward annual report of 69th year in the general body meeting. Parisansta progressed significantly in this year and we thank all the members of the Parisansta who made the programs of Parisansta a great success.

Governing Council for the year 2012-13

President	: Mr. Mujtaba Lokhandwala
Vice President	: Mr. Aniruddha Deshpande
	: Mr. Deepak Joshee
Secretary	: Dr. Sagar Gokhale
Treasurer	: Ms. Aparna Kinkar
Executive members	: Mr. Prabhakar Khole
	: Mr. Shailesh Tilak
	: Dr. Amod Rairikar
	: Mr. Sameer Godbole
	: Mr. Parimal Dave
	: Mrs. Ketaki Dave
	: Mr. Amit Kadlaskar
	: Mr. Mangesh Chavan
	: Mr. Sumit Purohit
	: Ms. Rucha Kulkarni

Welcome the new members

In the year 2012-13 Parisansta added many new members:

Life Members: 47

Annual Members: 293

WORK REPORT IN THE YEAR 2012-13

1. Libraries

The Parisanstha has an astronomical book library for many years as well as telescope library from last year. In the report year, Mr. Aniruddha Deshpande, Ms. Aparna Kinkar and Mr. Sagar Gokhale rearranged the book library. In this year Parisanstha has subscribed the astronomical monthly: "Sky and Telescope". The list of books in the library was made available on the JVP website. There were 7 library members in the present year. In the telescope library, Parisanstha has made available five 4 inch and 6 inch telescopes and one small radio telescope for solar observations. Nine members take benefit of the telescope library facility. In the report year, Mr. Mujtaba Lokhandwala presented five books to library and one 4 inch telescope to telescope library.

2. Study Courses

Basic Astronomy Course

This year Parisanstha conducted Basic Astronomy Course during 7th May to 29th May 2012 at Tilak Smarak Mandir. There were 47 participants in this course. It was inaugurated with a lecture by Prof. Ajit Kembhavi, Director, IUCAA. The course consisted of following lectures:

Date	Subject	Lecturer
7 May 2012	Gravitational Waves	Dr. Ajit Kembhavi, Director, IUCAA
8 May 2012	History of Astronomy	Mr. Shekhar Phatak, Former President, Jyotirvidya Parisanstha
10 May 2012	Solar System	Mr. Sumit Purohit, Executive member, Jyotirvidya Parisanstha
11 May 2012	Time & Astronomical measurements	Mr. V. V. Sovani, Former President, Jyotirvidya Parisanstha
12 May 2012	New Telescopes of this century	Dr. Ranjan Gupta, Professor, IUCAA
	Cosmic Microwave Background	Dr. Tarun Sauradeep, Professor, IUCAA
14 May 2012	Astronomical Instruments & Astrophotography	Mr. Parimal Dave, Executive member, Jyotirvidya Parisanstha
15 May 2012	Cosmology	Mr. Mujtaba Lokhandwala, President, Jyotirvidya Parisanstha
22 May 2012	Extra-solar planetary systems	Dr. Yogesh Wadadekar, Scientist, NCRA
24 May 2012	Events and Phenomena in astronomy	Dr. Sagar Gokhale, Secretary, Jyotirvidya Parisanstha
27 May 2012	Comets and meteors	Mr. Aniruddha Deshpande, Vice-President, Jyotirvidya Parisanstha
28 May 2012	Radio Astronomy	Mayuresh Surnis, Research Fellow, NCRA
29 May 2012	Search for extra-terrestrial life	Dr. Prakash Tupe, Former President, Jyotirvidya Parisanstha



Apart from these lectures, two practical sessions were conducted: 1) Asteroid tracking with JVP's 10" telescope; 2) Practical star party. Mr. Deepak Joshi guided these two sessions. JVP members: Mr. Atharva Pathak, Mr.

Mayuresh Wagh, Mr. Rugved Pund, Mr. Ramchandra Karanje and Ms. Aparna Kinkar help in successful organization of the course.

Course on Elementary Positional Astronomy

As a next step to Basic Astronomy Course, Parisanstha has organized a course based on mathematical astronomy for the members of Parisanstha: "Elementary Positional Astronomy". Mr. V. V. Sovani, Former President of Jyotirvidya Parisanstha conducted this course during 10 to 20 December, 2012 at Tilak Smarak Mandir. The topics covered in this course were:

- Spherical trigonometry
- Celestial co-ordinate system and their inter-conversions
- Planetary orbital elements
- Time system – equation of time
- Rising, setting, meridian transits of celestial bodies
- Angular distance calculations
- Geometric and heliocentric coordinate transformations
- Binary stars
- Diffraction, parallax calculations
- Occultation and eclipse calculations
- Comets related calculations

29 members participated in this course. On the demand by members, it was continued further between 15 to 22 January 2013

3. Planet shows and open programs

Since last few years, we organize free programs for citizens of Pune from Kesariwada. The programs organized in year 2012-13 were as follows:

Date	Planet	Telescope	Visitors
30 April-1 May 2012	Saturn	10" & 8" telescopes	Around 600
5 May 2012	Crescent Venus	10" & 8" telescopes	Around 500
27 November 2012	Saturn-Venus Conjunction	10" & 8" telescopes	Around 100
1 December 2012	Jupiter	10" & 8" telescopes	Around 600



Following members of Parisansta volunteered to make these programs a success: Ms. Aparna Kinkar, Mr. Aniruddha Deshpande, Mr. Deepak Joshee, Mr. Parimal Dave, Mrs. Ketaki Dave,

Mr. Mayuresh Wagh, Mr. Omkar Gawali, Mr. Atharva Pathak, Mr. Milind Joshi, Mr. Hari Shankar, Mr. Rugved Pund, Miss. Amruta Pund, Mr. Amit Kadlaskar, Mr. Ramchandra Karanje, Mr. Amit Kakade, Mr. Mangesh Chavan, Mr. Kumar Nikate, Miss Rucha Kulkarni, Mr. Sumeet Purohit

Apart from these programs, following programs were organized free by the Parisansta,

- Saturn show at Cultural Center, Sun City, Sinhagad Road on 11 May 2012. Butterfly Kids Organization helped in organization of this event. Around 300 citizens attended the program. Mr. Milind Joshi, Mr. Atharva Pathak and Mr. Mayuresh Wagh guided the visitors.

- On 13th May 2012, Parisansta organized a “Zero Shadow Day” program in the campus of Tilak Smarak Mandir. Around 100 people visited this program. Local newspapers and local & national news channels gave publicity to this program. Dr. Prakash Tupe, Mr. Mujtaba Lokhandwala, Mr. Deepak Joshee, Mr. Aniruddha Deshpande, Mr. Sagar Gokhale, Ms. Aparna Kinkar, Mr. Mayuresh Wagh, Mr. Mangesh Chavan, Mr. Amit Kadlaskar, Mr. Amit Kakade, Mr. Parimal Dave, Mr. Milind Joshi, Mr. Atharva Pathak, Mr. Rugved Pund, Mr. Dhiraj Gaikwad, Mrs. Ketaki Dave, Mrs. Jyoti Gokhale, Mr. Kumar Nikate made this program successful.



- On 6th June 2012, we had second and the last Venus transit of this century. Jyotirvidya Parisansta in collaboration with Astro-Club of Physics Department, Fergusson College made available telescopes for viewing this transit. Program was organized at Fergusson College Gymkhana ground. Parisansta made 12 small telescopes available to citizens for direct viewing whereas Parisansta’s 10” telescope was used to project the image of sun and Venus on the screen. This program was webcasted on Parisansta’s website. Due to heavy cloud cover, people could observe the view only for 30



minutes. Around 800 people attended this program. Mr. Mujtaba Lokhandwala, Dr. Prakash Tupe, Mr. Deepak Joshee, Ms. Aparna Kinkar, Mr. Mayuresh Wagh, Mr. Parimal Dave, Mr. Milind Joshi, Mr. Atharva Pathak, Mr. Rugved Pund, Mr. Siddharth Birmal, Mrs. Ketaki Dave, Miss Amruta Pund, Miss Rucha Kulkarni, Mr. Omkar Gawali, Mr. Sameer Godbole, Mr. Sagar Gokhale, Mrs. Jyoti Gokhale, Miss Bhumika Rathore, Miss Tanmayee Gupte, etc. worked hard to make this program successful.



4. Lectures

In the year 2012-13 Parisansta organized five public lectures.

Date	Lecturer	Subject	Venue	Attendance
12 April 2012	Mr. Sameer Dhurde, Science Popularization officer	Computers & Astronomy	Tilak Smarak Mandir, Basement Hall	30
7 May 2012	Prof. Ajit Kembhavi, Director, IUCAA	Gravitational waves	Tilak Smarak Mandir, Basement Hall	150
17 May 2012	Mr. Mohan Apte	Ancient Indian Astronomy	Tilak Smarak Mandir, Basement Hall	100
21 June 2012	Dr. Sanjeev Mitra, Scientist, IUCAA	Cosmic Microwave Background	Tilak Smarak Mandir, Basement Hall	40
12 July 2012	Dr. Bhaswati Bhattacharya, Scientist, IUCAA	Discovery of millisecond pulsars with the GMRT	Tilak Smarak Mandir, Basement Hall	75



Prof. Ajit Kembhavi



Mr. Mohan Apte

5. Star Parties

As per yearly program, Parisanstha has organized monthly public star parties. The report of the same is as follows,

Date	Venue	Attendees
14 April 2012	Gokul Lawns, Pirangut	50
19 May 2012	Gokul Lawns, Pirangut	147
10 November 2012	Pethe Farms, Near Nasarapur	45
8 December 2012	Pethe Farms, Near Nasarapur	50
12 January 2013	Pethe Farms, Near Nasarapur	20
9 February 2013	Pethe Farms, Near Nasarapur	34
16 March 2013	Pethe Farms, Near Nasarapur	60

All these programs were successfully organized because of indeed help of following members: Ms. Aparna Kinkar, Mr. Aniruddha Deshpande, Mr. Deepak Joshee, Mr. Parimal Dave, Mrs. Ketaki Dave, Mr. Sarang Sahastrabuddhe, Mr. Mayuresh Wagh, Mr. Omkar Gawali, Mr. Atharva Pathak, Mr. Nilay Mokashi, Mr. Milind Joshi, Mr. Mujtaba Lokhandwala, Mr. Suhas Gurjar, Mr. Sagar Gokhale, Mr. Hari Shankar, Mr. Rugved Pund, Miss Amruta Pund, Ms. Sameer Godbole, Mr. Amit Kadlaskar, Mr. Ramchandra Karanje, Miss. Madhavi Patankar.

In addition to these programs, following invitation star parties were conducted by Parisanstha

- On 28 April 2012, John Deere Company had organized a star party in collaboration with Jyotirvidya Parisanstha for the children of prostitutes. 40 students participated in this program at Kesariwada. Mr. Amit Kadlaskar, Mr. Sagar Gokhale, Mr. Atharva Pathak, Mrs. Jyoti Gokhale guided the participants of the program.
- On 3 May 2012, a star party program was conducted by Mr. Deepak Joshee, Mr. Aniruddha Deshpande and Mr. Sagar Gokhale for the students in summer course at Shree Shree Ravi Shankar Ashram at Katarkhadak village. 50 students of this residential course participated in the program.
- In December 2012, Mr. Deepak Joshee, Mr. Aniruddha Deshpande and Mr. Mayuresh Wagh conducted a star party at Fergusson College under National Service Scheme. Around 50 students participated in this program.
- On 14 March 2013, Mr. Omkar Gawali, Mr. Sarang Sahastrabuddhe, Mr. Mayuresh Wagh and Mr. Aniruddha Deshpande guided the Pune citizens in the star party program being arranged by IUCAA at their campus.
- On 15 March 2013, Mr. Mujtaba Lokhandwala, Mr. Aniruddha Deshpande, Mr. Sarang Sahastrabuddhe, Mr. Omkar Gawali conducted a star party for the employees of Atlas Copco Company at Pethe Farms, near Nasrapur. 100 employees of the company participated in this program.

6. Study Tours

Following study tours were conducted by Parisanstha this year,

Date	Place	Participants	Guidance
17-18 November 2012	Lonar Meteoritic Crater	27	Mr. Bugdane, Lonar
23 December 2012	GMRT&IUCAA Girawali Observatory	45	Mr. Arvind Paranjapye, Director, Nehru Planetarium



In Lonar study tour, participants visited places like Sharangadhar Mandir at Mehekar, Lonar main crater, temples in the crater, Dharatirtha Mandir, Daityasudan Mandir, Ambar crater, Sleeping Hanuman temple, etc. Bugdane Sir gave the scientific information

of these places. Participants also studied magnetic stones formed due to meteorite impact, highly salted water in the Lonar Lake and biodiversity in the crater.

Efforts taken by Mr. Amit Kadlaskar for organization of these study tours are highly appreciated.

7. Astronomical Exhibition

In the report year, Curiosity rover landed on Mars under NASA's Mars Science Laboratory mission. On this occasion, Parisanstha organized an exhibition on "Mars Exploration" during 5-7 October



2012 at New Art Gallery, Ghole Road, Pune. On 5 October 2012, exhibition was inaugurated at the hands of Dr. Suresh Naik, Director, Popular Space Science, Ex. Group Director- ISRO, President - International Space Society. Around 2500 citizens visited this exhibition. Models of Mars Reconnaissance orbital, Mars express, Mars Path Finder Sojourner, Mars science lab, MPL cruise, Mars Polar Lander, Spirit and opportunity, Viking, Mangalyan were

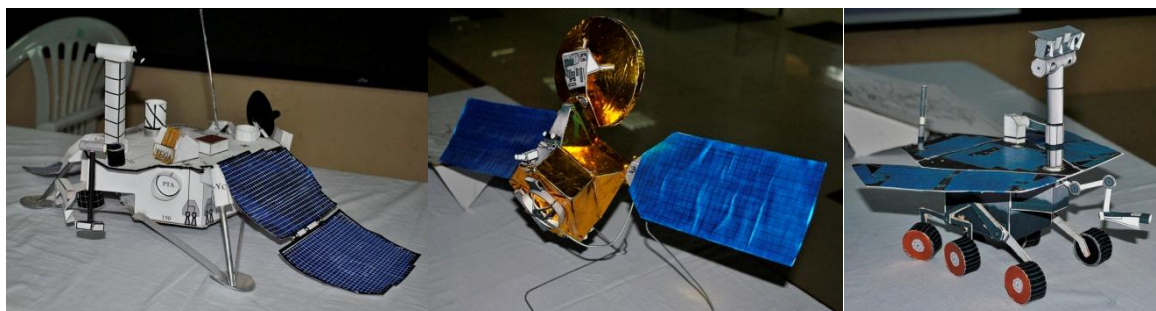
displayed in this exhibition. Information was given in the forms of comparative charts and audio-visuals. Mr. Rugved Pund and Mr. Sudhir Vaishampayan delivered information on physical properties of Mars and its comparison with Earth. The timeline of missions to Mars was explained by Mrs. Ketaki Dave and Miss Madhavi Patankar. Main attraction of the exhibition was the model of stages of landing of Curiosity on Mars and a working model of Curiosity rover roaming on the artificial Martian surface. Mr. Ramchandra Karanje, Miss Madhavi Patankar, Dr. Amod Rairikar, Mr. Milind Joshi and Mr. Aniruddha Deshpande worked really hard to make this working model of the rover.

The exhibition on second floor of the art gallery was divided into four parts: Mars Fly-by Missions, Mars Orbitals, Mars Orbitals and lander, Mars Rovers. Miss. Bhumika Rathore introduced Mars Fly-by Missions which was followed by Mars Orbital Missions which were explained by Miss. Rucha Kulkarni, Miss. Kalyani Date, Mr. Omkar Kadam, Miss. Komal Sureshkumar, Miss. Shreya Khedkar, Mr. Hari Shankar, Miss. Shravani Kale, Mr. Omkar Gawali. The following section was on MPL cruise, Mars Landers and Mars Rovers. Mr. Mangesh Chavan, Mr. Kumar Nikate, Mr. Aniket



Kelkar, Miss. Amruta Pund, Miss. Tanmayee Gupte, Mr. Amit Kadlaskar, Miss. Akanksha Devkar, Miss. Akalpita Kinkar, Miss. Sneha Chitre, Mr. Akshay Joshi and Mr. Nishad Deshpande were busy in explaining these missions. With the help of films, Mr. Parimal Dave and Mr. Mayuresh Wagh explained the different methods used to land on Mars in different Mars Missions.

Apart from these members, following members of Parisansta worked very hard to make this exhibition a big success: Mr. Milind Joshi, Mr. Mangesh Karandikar, Mrs. Jyoti Gokhale, Dr. Amod Rairikar, Ms. Aparna Kinkar, Dr. Prakash Tupe, Mr. Suhas Gurjar, Mr. Deepak Joshi, Mr. Aniruddha Deshpande, Mr. Sagar Gokhale and Mr. Mujtaba Lokhandwala. All these members worked hard for August and September months of 2012 for preparations of exhibition. Parisansta is thankful to Mr. Sudhir Vaishampayan for reaching to many schools in Pune and giving information regarding exhibition to school students. We are also thankful to Mr. Vinod Pawar for making artificial Martian surface.



8. Other Programs

- In the report year, IUCAA Sci-pop conducted a 10 week long workshop on Photometric Observations of Variable Stars under the scheme of Muktagan Vigyan Vikas Shodhika (MViSa). Parisansta members: Mr. Aniruddha Deshpande, Mr. Deepak Joshi, Mr. Mayuresh Wagh, Miss. Amruta Pund and Miss. Tanmayee Gupte participated in this workshop.
- In the report year, during Basic Astronomy Course and Astronomical Exhibition, many citizens and students became member of Jyotirvidya Parisansta. To make these members familiar with the activities of JVP, an Induction Program was organized on 21 October 2012.

Mr. Mujtaba Lokhandwala, Mr. Parimal Dave, Mr. Suhas Gurjar, Mr. Sagar Gokhale, Mr. Deepak Joshee and Mr. Aniruddha Deshpande guided new members in this program.

- Sameer Dhurde, Science Popularization Officer of IUCAA took the lead to organize Amateur Astronomers' Meet for representatives of amateur astronomers associations in Pune on 31 December 2012. In this meet, Mr. Sagar Gokhale and Mr. Deepak Joshee presented different scientific activities of Parisanstha. Prof. Ajit Kembhavi, Director, IUCAA took a special note of the work carried out by Parisanstha.

- We celebrate National Science Day on 28 February. On this occasion, IUCAA and GMRT organized an open program for common people and invited Jyotirvidya Parisanstha members for guiding the visitors. On this occasion, at IUCAA, Parisanstha presented nine models of Mars Missions, its information in the form of charts and Parisanstha's small radio telescope;



whereas at GMRT Parisanstha presented a working model of Mars Rover "Curiosity" under NASA's mission, "Mars Science Lab". Parisanstha members also guided visitors at IUCAA in the star gazing session after sunset. Around 10,000 people visited IUCAA program whereas



23,000 people visited GMRT program. Mr. Hari Shankar, Miss. Shravani Kale, Miss. Prutha Bhide, Miss. Sneha Chitre, Miss Akanksha Devkar, Miss. Mayuri Nahar, Miss. Renuka Kulkarni, Miss Tanmayee Gupte, Mr. Omkar Gawali, Mr. Nilay Mokashi, Mr. Mayuresh Wagh, Mr. Aniket Kelkar, Mr. Aniruddha Deshpande, Mr.

Parimal Dave, Mr. Sarang Sahastrabuddhe, Mr. Atharva Pathak, Mr. Nishad Deshpande, Miss. Ankita Torane, Miss. Shreya Khedkar and Mr. Mujtaba Lokhandwala volunteered at IUCAA; whereas Mr. Suhas Gurjar, Miss. Amruta Pund, Mr. Akshay Joshi, Mr. Omkar Gawali, Mr. Mayuresh Wagh and Miss. Madhavi Patankar volunteered at GMRT program.

- This year, Parisanstha member Miss. Tanmayee Gupte participated in IUCAA summer school whereas Miss. Shravani Kale participated in NCRA's winter school.

9. Social networking

- This year Mr. Sagar Gokhale made some minor changes in the structure of Parisansta's website: www.jvp.org.in and maintained this site very regularly throughout the year.
- On the community site: Facebook, Parisansta runs a group named "JVP ज्योतिर्विद्या परिसंस्था" and a page named "Jyotirvidya Parisansta". This group and a page are very active and regular discussions occur in the group on various activities of Parisansta and various astronomical events.
- On the community site: Facebook, Parisansta took a lead to make a group named, "Indian Amateur Astronomers". The aim of this group is to make available a common platform to amateur astronomers in India and do some collaborative projects across India. Mr. Suhas Gurjar has taken lead in this activity.

10. Observational projects

Parisansta's 10" telescope is installed at Kesariwada and is being controlled through computer software. Parisansta members have named this observational facility as "Kesariwada JVP Observatory" (KJO). Mr. Deepak Joshee has presented 6" refractor telescope to this facility.



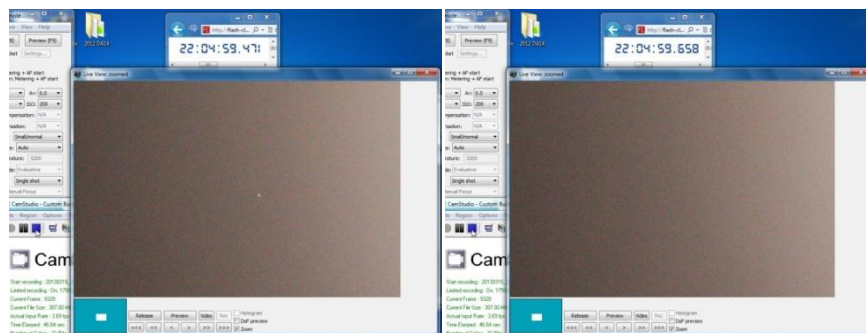
Parisansta members have carried out many observational sessions using Parisansta's telescope at Kesariwada or IUCAA. Except monsoon season, members were busy in taking observations almost 4 to 5 days in a week. Following members took part in taking observations: Mr. Omkar Gawali, Mr. Deepak Joshee, Mr. Aniruddha Deshpande, Ms. Aparna Kinkar, Mr. Mayuresh Wagh, Mr. Atharva Pathak, Mr. Nilay Mokashi, Miss. Amruta Pund, Mr. Ramchandra Karanje, Mr. Hari Shankar, Miss. Shreya Khedkar, Miss. Ankita Torane, Miss. Tanmayee Gupte, Miss. Madhavi Patankar, Mr. Rugved Pund, Mr. Sameer Godbole. IUCAA's Science Popularization Officer, Mr. Sameer Dhurde also participated in some of the observations. Members have done following observations,

- Comet observations and photography: Comet 168P was observed and photographed on 27 October 2012, 31 October 2012, 9 November 2013, 19 November 2012, 6 December 2012, 16 December 2012. Comet K-5 was observed and photographed on 17 December 2012, 30 December 2012, 1 January 2013, 4 January 2013. Comet Ison was observed and photographed on 30 December 2012, 4 January 2013, 24 January 2013. Comet C-2012-L2 was observed and photographed on 24 January 2013. Comet PanStarrs was observed and photographed on 12 March 2013



- Occultation: Parisansta members successfully observed some of the occultation this year. These observations can be used to determine or cross check orbits of planet or asteroids. Following occultation were observed by the members:

- Occultation of star AR 152 OTA by asteroid Pamela was observed from Sinnar near Nasik.
- Lunar occultation: These occultation were observed by both visual and photographic methods.
17 March 2013: 43 Tauri
19 March 2013: HIP 27747, HIP 27965

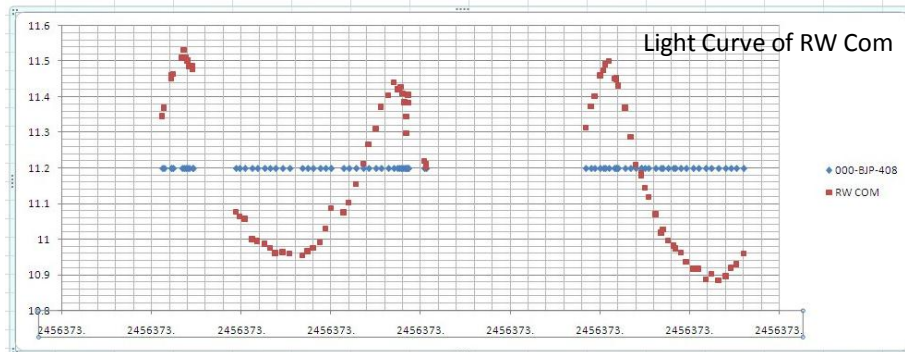


(The star in left side photo is occulted behind moon's dark side in right side photo)

- Variable stars: This year Parisansta members and Fergusson College students, Miss. Shreya Khedkar and Miss. Ankita Torane had selected the topic of Variable Stars for their B.Sc. project. This project was done using Parisansta's 10" telescope. This started the variable star observational activity in the Parisansta. Miss. Shreya and Miss. Ankita worked on variable stars: CX Aquari and RZ Tauri. Apart from these stars, members worked on following variable stars:
 - Algol: 31 October 2012, 4 November 2012 (This observation was taken from Nasarapur); 9,19, 27 and 30 November 2012; 4, 5, 17, 25 December 2012; 24 February 2013
 - HIP 13133: 8 and 9 November 2012
 - RZ Cassiopeia: 9 November 2012
 - DI-Pegasus: 9 and 10 November 2012
 - BX Andromede: 19 November 2012
 - RZ Tauri: 30 November 2012, 22 December 2012, 4 January 2013 (Girawali), 28 January 2013
 - CX Aquari: 19, 20, 21, 29 November 2012, 4 December 2012
 - CW Leo: 24 January 2013
 - UU Leo: 24 January 2013
 - UV Leo: 24 January 2013, 18 February 2013
 - VZ Leo: 24 January 2013, 18 February 2013
 - Y Leo: 24 January 2013, 18 February 2013
 - EQ Orion: 8 February 2013

- ER Orion: 21 February 2013
- HIP21619: 20 February 2013 (In green printer)
- HIP28190: 12 February 2013
- EP Auriga: 7 March 2013
- RW Com: 21 March 2013

Observations of SZ Tauri and RZ Tauri were submitted to American Association of Variable Stars Observers (AAVSO).



- Asteroid tracking: Asteroid tracking was done for following: 16 December 2012: Catalina, Ceres; 17 December 2012: Euryone; 7 February 2013: Wilhemina; 24 February 2013: 2012-DA14 Asteroid near earth flyby.



- Planetary observations: Photographs of following planets/moon were taken: 11 May 2012: Moon, 19 May 2012: Saturn and Moon, 19 October 2012: Moon, 27 October 2012: Moon at Perigee and Uranus, 29 October 2012: Jupiter, 30 October 2012: Moon, 6 December 2012: Jupiter, 12 December 2012: Jupiter, 16 & 17 December 2012: Moon with Earthshine, 21 December 2012: Moon
- Observation session from Girawali: on 4th and 5th January 2013, Parisanस्था members, Mr. Deepak Joshee, Mr. Aniruddha Deshpande, Mr. Suhas Gurjar, Mr. Mayuresh Wagh along with IUCAA's science popularization officer, Mr. Sameer Dhurde visited IUCAA Girawali Observatory Premises for testing the lowest magnitude which can be reached from the site. They tested this using Canon 7D camera of Mr. Deepak Joshee and SBIG ST 7 CCD camera of IUCAA. They took photographs of following: Asteroids: 1999 XA 17 (magnitude: 18.4), 2009 BK7; Comets: C/2012 S1 (Ison), K5; Double cluster in Cassiopeia; Star trails near North Pole.



- Messier Marathon: This year Parisansta members carried out Messier Marathon from Pasali Village, Velha Taluka, Pune District on 9/10 March 2013. Following members participated in the marathon: Mr. Sagar Gokhale (104 objects out of 110), Mr. Parimal Dave (101/110) and Mr. Mayank Parkhi (40/110).

- Deep Sky Photography: Last year, Parisansta procured EQ-6 Pro equatorial mount and using computer control over it, members started taking good observations. During 21-23 April 2012, some of the Parisansta Members successfully tried deep sky photography from Karde-Murud village in Kokan. During this session, photography was carried out through Parisansta's 10" Celestron telescope mounted on Sky watcher's EQ-6 Pro mount, Skywatcher 8" Go To Dobsonian telescope and Mr. Parimal Dave's 4" Celestron Go To telescope. In this session photographs of following objects were taken: M6 (Butterfly Cluster), M7, M8 (Lagoon Nebula), M13 (Hercules Cluster), M16 (Eagle Nebula), M17 (omega Nebula), M20 (Trifid Nebula), M21, M22, M27 (Dumbbell Nebula), M35, M36, M37, M41, M44, M46, M47, M48, M50, M51 (Whirlpool Galaxy), M55, M57 (Ring Nebula), M81, M82, M83, M101, M104 (Sombrero galaxy), NGC 2997, Omega Centauri globular cluster, Sunflower galaxy, Milky way. Following members participated in this session: Mr. Aniruddha Deshpande, Mr. Sagar Gokhale, Mr. Parimal Dave, Mrs. Ketaki Dave, Ms. Aparna Kinkar, Mr. Amit Kadlaskar, Mr. Milind Joshi, Mr. Mayuresh Wagh, Mr. Atharva Pathak, Mr. Rugved



Whirlpool Galaxy
though 10" telescope



Trifid Nebula though 10"
telescope

M17 (omega Nebula), M20 (Trifid Nebula), M21, M22, M27 (Dumbbell Nebula), M35, M36, M37, M41, M44, M46, M47, M48, M50, M51 (Whirlpool Galaxy), M55, M57 (Ring Nebula), M81, M82, M83, M101, M104 (Sombrero galaxy), NGC 2997, Omega Centauri globular cluster, Sunflower galaxy, Milky way. Following members participated in this session: Mr. Aniruddha Deshpande, Mr. Sagar Gokhale, Mr. Parimal Dave, Mrs. Ketaki Dave, Ms. Aparna Kinkar, Mr. Amit Kadlaskar, Mr. Milind Joshi, Mr. Mayuresh Wagh, Mr. Atharva Pathak, Mr. Rugved Pund, Mr. Dhiraj Gaikwad, Mr. Siddharth Birmal, Miss. Amruta Pund, Miss Tanmayee Gupte, Mrs. Jyoti Gokhale, Miss. Bhumika Rathore and Miss. Akalpita Kinkar.

Governing council takes this opportunity to thank following members and personalities:

- Mr. Shailesh Tilak permitted to set up observatory facility at Kesariwada and made available terrace of Kesariwada new building free of charge. Additionally, Kesariwada terrace, Tilak Smarak Mandir Premises for open programs and one room in Kesariwada for preparations of exhibition were made available free of charge by Mr. Shailesh Tilak. We are thankful to him for this valuable help.
- Mr. Milind Kelkar helped a lot in making posters for exhibition. We are thankful to him.
- Mr. Sagar Gokhale worked hard for making contents and design of all posters for exhibition. He also worked well for website maintenance very regularly.
- Dr. Amod Rairikar helped a lot for telescope maintenance and for making models for exhibition.
- Ms. Aparna Kinkar very well looked after office activities and financial activities though out the year.
- Mr. Amit Kadlaskar organized both the study tours single handed. We are thankful to him as well.

- Mr. Deepak Joshee presented 6" refractor telescope to Parisanstha. Also Kesariwada observatory was incomplete without his Canon 7D camera. We are thankful to Mr. Deepak Joshee.
- Mr. Mujtaba Lokhandwala presented five books and a four inch telescope to library. We are thankful to him for the donations.
- We are thankful to Prof. Ajit Kembhavi and Prof. Vijay Mohan for granting permission to take observations from Girawali IUCAA observatory site and also for taking observations using SBIG ST 7 CCD camera. Mr. Sameer Dhurde also helped a lot during the observational sessions.
- We are thankful to Mr. Arvind Paranjpye and Mr. Bugdane for guiding the study tours.
- We are thankful to NCRA's Dr. Neeruj Mohan Ramanujan for the logistics and hospitality he provided to Parisanstha members during National Science Day at GMRT.

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