

htmetro

Now, HAM radio operators set to help in tracking comet

FREQUENCY CHANGE They helped in relief ops in Uttarakhand and Odisha

Ravik Bhattacharya
 KOLKATA: After helping the Odisha government in disaster relief during cyclone Phailin, HAM radio operators will now help astrophysicists track a comet. Astrophysicists are joining hands with HAM (amateur) radio operators to track and read data from comet ISON, scheduled to pass nearest to the earth on November 28.

Scientists of Bengaluru-based Indian Institute of Astrophysics will send a balloon 40 km into the atmosphere to get data on the comet. As the instruments drop with a parachute it will be a team of HAM radio, which will track and retrieve it from anywhere in India and abroad.

Comet ISON or Comet Neviski-Novichonok is a sungrazing comet discovered on September 21, 2012, by Vitali Neviski and Artyom Novichonok. Studies presented at the American Astronomical Society's Division for Planetary Sciences meeting recently in Denver suggest that ISON's nucleus measures somewhere between 1 to 4 km across and it has a distinct green glow at its tail.

"This has never been tried before in the country. Our trial runs have been successful. We have set up a station in Bengaluru and two mobile units will be on the ground to track the balloon and the instruments as it records data from comet ISON as close as possible," said Ram Mohan Suri, director of National Institute of Amateur Radio.

IIA in Bengaluru has joined hands with Dhruva Space and National Institute of Amateur Radio for the project. A noon gas-filled balloon carrying a load of instruments will be sent 40 km into the atmosphere (ceiling altitude, highest altitude a balloon can climb up to). As the comet passes earth the instruments will record detailed reading of its mass, composition, inert gases present and other aspects of its nucleus and tail. However, shortly after the comet passes, the balloon will burst and a parachute will drop the instruments on ground. "We will have an amateur package reporting system tagged with the payload. This technology gives us the latitude, longitude, force speed and temperature of the balloon. When the payload drops we will track its signal and our job is to retrieve the instruments. They payload may fall anywhere, in India or even outside," said Suri. A successful trial run took place on September 21, 2012.

The date about the location of the payload and the balloon will be posted online in real time, so that amateur radio operators throughout the world can locate the balloon and its payload.

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Tracking Comet ISON

Coming soon: Brightest comet of our lifetime

DC CORRESPONDENT BENGALURU, SEPT. 29

Astronomers and amateur sky gazers are excitedly waiting for comet 'ISON', which is termed as the brightest of our lifetime.

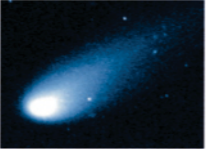
The comet, discovered by two amateur astronomers from Russia, will be at its brightest in November and December. It will be visible in Bengaluru and other parts of the world.

In preparation of the celestial event, a high-altitude helium balloon was test-launched from the Hoskote campus of Indian Institute of Astrophysics

on Sunday. When the comet is passing by, the balloon will carry a GPS transmitter and a GPS GSM tracker, to keep track of the balloon's flight as it rises up to 40 km reaching the stratosphere.

Comet ISON, or Comet Neviski-Novichonok - a Sun-grazing comet, has been named after Vitali Neviski and Artyom Novichonok, who discovered it on September 21, 2012.

Mr Narayan Prasad, co-founder of Dhruva Space, said, "Students from R.V. College of Engineering and Sridevi Women's Engineering College, Hyderabad, interning at Dhruva Space, have worked on the tracking systems. It provides an opportunity for students to work on near-space environment hardware development."



A file photo of comet ISON

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Mount Abu International Ham Radio Club Inaugurated

ABOUT US

National Institute of Amateur Radio (NIAR) is a Non-Profit, Non-Government Voluntary Organization emphasizing on encouraging peoples' participation in communication and information technology through Amateur Radio and disaster management.

OUR VISION

To build a world-class institution to support advancement of global Amateur Radio activity in terms of promotion, training, advocacy, technical support, knowledge repository and research, exceed the expectations with commitment, quality and excellent service.

- PROGRAMS**
- Training / Awareness
 - Disaster Management
 - Support for Organisations
 - Technical Support
 - QSL Bureau
 - Knowledge repository
 - Comprehensive consultancy
 - Demonstrations
 - Supports government in Policy making.

JOIN US

Yahoo groups, go to <http://groups.yahoo.com/subscribe/niarindia>

Join in RACES, login http://www.niar.org/join_races.htm

Become NIAR member, go to <http://www.niar.org/membership.html>

Visit Amateur Radio Museum, Knowledge & Awareness centre, go to <http://www.niar.org/museum.htm>



Mr.S. Suri, VU2MY, CEO and Chairman of NIAR inaugurated the Mount Abu International Ham Radio Club with the call sign VU2BK located at Scientists and Engineers Wing of Brahma Kumaris, Mount Abu, Rajasthan on 17 Oct 2013 by making a contact with NIAR HQ station VU2NRO on 14160 kHz. The club has over 200 Hams associated with the organisation. BK Yashwant Bhai VU2YOR is the custodian of the club, other members include BK Arun Kumar, VU3VGP.

Awareness Programs:

A Workshop on Ham Radio was conducted at IIT Kharagpur on 7 Sept 2013 by Mr.S.Ram Mohan, VU2MYH, Director NIAR. Mr. Sanjay Nekkanti, AB3OE, Director, Dhruva Space introduced about various aspects of satellites to the students. Nevin Kollanoor, Head, National Students' Space Challenge coordinated the program.

A seminar on Ham Radio was organized on 12 Sept 2013 for 70 students and 2 staff members of G.Pulla Reddy Degree and P.G. College, Hyderabad at NIAR. They were introduced to the technicalities and advancements in the field of Amateur Radio. Mr.S.Ram Mohan, VU2MYH gave lecture and made presentation. Later they visited the Amateur Radio museum also.





Comet ISON

High altitude balloon launched

To prepare for the comet ISON study launch campaign, a high altitude balloon filled with helium was launched from the Hoskote campus of Indian Institute of Astrophysics, Bangalore on 30 Sept 2013. The National Institute of Amateur Radio (NIAR), Hyderabad and Indian Institute of Hams (IIH), Bangalore were involved in the efforts of tracing and recovery of the payload. The balloon was launched at 6 a.m. and the payload successfully retrieved by 10 a.m.

High Altitude Ballooning to Study Comets

National Institute of Amateur Radio, Hyderabad with Dhruva Space, India's first small satellite start-up is supporting the Indian Institute of Astrophysics with its high altitude balloon campaign to study the comet ISON using high altitude rubber balloons filled with Helium was launched on 29 Sept 2013, 13 Oct 2013 & 28 Nov 2013 in the early morning from Hoskote campus of Indian Institute of Astrophysics, Bangalore. The present launch featured a GPS transmitter and a GSM tracker, both of which are extremely important in keeping track of the balloon in flight, as it rises upto 40 kms reaching upper stratosphere. We are extensively involved in the efforts of tracing and safely recovery of the payload. This event was coordinated by Mr.S.Ram Mohan (Director NIAR), Mr.Sanjay Nekkanti and Mr.Narayan Prasad of Dhruva Space.

Talk on "Amateur Radio for High Altitude Ballooning"

Mr S.Ram Mohan, VU2MYH, Director, National Institute of Amateur Radio spoke on APRS technologies for Satellite tracking on 29th Sept, 2013 at 4.15 pm at Indian Institute of Hams, Bangalore. Several local hams and SWLs attended the event. The program was coordinated by Mr.S.Satyapal, VU2FI.

Dhruva Space sets record in Telemetry & Tracking in India



Team Dhruva Space

Dhruva Space in association with Indian Institute of Astrophysics is gearing up to observe comet ISON when it passes earth on November 28 using a high altitude balloon platform. Weekly test flights are in progress as part of the preparations for the ISON observation. On one such flight on October 13, the balloon which was carrying a 5 kilograms payload containing various sensors reached a peak altitude of 21 kilometres and it drifted over 600 kilometres into the Arabian Sea. What makes this test flight special is that the ground station at Bangalore and the two mobile payload recovery teams were able to receive radio signals from the balloon for over 12 hours without any disruption. Hyderabad based National Institute of Amateur Radio which is one of the program partners has provided immense support in successful post-flight payload recovery. Ham radio operators in Karnataka and Goa in India, and Middle East and Africa were able to receive encoded APRS signals containing real time location, altitude and other operating conditions of the flight. Dhruva Space has been applauded by many national and international agencies for pulling off a very successful mission tracking record. Mr. Narayan Prasad, Directors of Dhruva Space, spoke to our correspondent at Dubai where he has been invited to speak at a United Nations / United Arab Emirates Symposium on Basic Space Technology. He thanked the ISON observation mission partners, Indian Institute of Astrophysics and National Institute of Amateur Radio for their continued support in making each test flight a success. He is very bullish about a successful mission in late November. Mr. Sanjay Nekkanti, Director of Dhruva Space, told the press that they are considering opening up their ballooning platform to universities, researchers and enthusiasts who may be interested in flying their own experiments to study comet ISON.

About Dhruva Space
Dhruva Space was founded in 2012 as India's first Private Space Company which has small satellite integration capabilities. Some of their other solutions include Ballooning Platforms, UAVs and Space Devices for both civilian and military applications. Visit www.dhruvaspace.com for more information.

Source: <http://www.globalbrandsmagazine.com/dhruva-space-sets-record-in-telemetry-tracking-in-india/>

Cyclone Phailin

Members of NIAR were on high alert during the Cyclone Phailin which hit Odisha Coast on 12 Oct 2013



1. Mr. S.Suri, VU2MY operating the station
2. Mr. Leela VU3LGX operating the station. VU2RUV & Mr. Satyanarayana, VU2DSV is also seen

CQ WW Phone Contest at NIAR

NIAR invited local hams to participate in CQ World Wide Phone Contest during 26 to 28 Oct 2013. A few of them utilised the opportunity and made their first contacts. They also receive First Contact Award issued by ARRL.

Visitors to NIAR



Mr. Sudhir Rathod, Asst. Professor, Centre for Disaster Management, Yashwantrao Chavan Academy of Development Administration, Pune visited NIAR on 13 Sept 2013 and discussed matters of mutual interest. Mr.Rathod, who is waiting for his licence had taken initiatives for conducting Amateur Radio training while he was stationed at Prabhodini, in Amratavati last year.

Mr. Taher Ahmad, from Assam Police Radio Organisation (APRO), Guwahati visited NIAR on 30 Oct 2013 and was impressed with the facilities available. NIAR is closely cooperating with APRO club station VU2VKP.



Mr. Bopanna, VU3BOP (left) an active from Karnataka visited NIAR offices and Museum an interacted with the staff.



Mr. Utpal Das, VU3CGC, Head (Administration, Marketing and PR), Kolkata, St. Mary's Group of Institutions visited NIAR along with his wife and son on 25 Oct 2013.

Hamfest India 2013

Hamfest India 2013 held at Gwalior during 21-22 Sept. 2013. Mr.S.Satyapal, VU2FI, Governing Council Member, National Institute of Amateur Radio represented NIAR at the event



AMATEUR RADIO LECTURES IN INDIA

by Miroslav Skoric YT7MPB, IEEE Austria Section

Few hundreds of engineering students and teachers at four educational institutions in India were busy attending ham radio (=amateur radio) lectures in September 2014. This year, my conference journey to the incredible India started in Udaipur, Rajasthan state, where the National Workshop on Amateur Radio and Software Defined Radio was organized with Department of Electronics & Communication at Techno India NJR Institute of Technology – TINJRIT, (Figures 1 and 2).



Fig-1



Fig-2

That was my second visit to that part of the country, and this time we decided to extend our workshop from two to three days. In addition and besides theoretical parts of the sessions we wanted to offer the students practical opportunities with real electronics, such as to build devices partially driven by computer's CPU capability. Thankfully to the organizational support provided by the most prestigious amateur radio society in India, the National Institute of Amateur Radio (NIAR), and its enthusiastic leader Mr. Ram Mohan, VU2MYH, the students had an exciting chance to learn designing, assembling, and testing various subsystems of more complex radio devices – and to do that in their own school! The practical part of the workshop was carefully conducted by Mr. Ramaprabhu Dev, VU2DEV, the head of Research & Development department with Micronova Impex Ltd. Bangalore, (Fig. 3). Among the young participants it was nice to have many female students who will contribute to the better gender ratio in technology-related professions in the near future, (Fig. 4).



Fig-3



Fig-4

The organizers invested additional efforts to publicize the workshop, by displaying a large banner near the entrance gate of TINJRIT (Fig. 5), as well as to include rich social/cultural program by the students (Fig. 6).

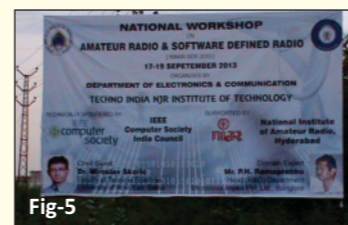


Fig-5



Fig-6

The next event was the 2nd International Conference on Computing and Systems in Burdwan, West Bengal state, held in the premises of University of Burdwan, and organized by Department of Computer Sciences, Fig.7. The meeting was opened by the state's minister of Research and Human Resource (Fig. 8, right).

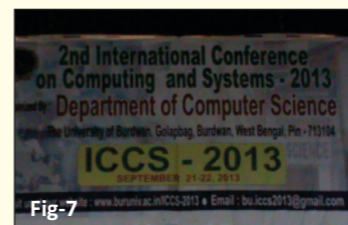


Fig-7



Fig-8

The foreign participants were accommodated in the guest house—a kind of a student dormitory (Fig.9), and the campus area flourished with flora and fauna, Fig.10, 11.



Fig-9



Fig-10

In that particular occasion, the conference was rather small in length and number of participants, Fig. 12. Compared to the complex workshop in Udaipur, the amateur radio lecture was constrained to half an hour. Having in mind that the tutorial was primarily devoted to the younger generations, and because of a fact that the students had been occupied by their volunteering duties within the conference, I managed to find some one hour and a half of free time after the valedictory session, and talked to the student-volunteers on many capabilities of the ham digital radio.



Fig-11



Fig-12

Unfortunately, that part of West Bengal state does not have active amateur radio enthusiasts; therefore it deserves more publicizing and technical attention in the future. The second conference, ISPC 2013 (Fig. 13) was supported by IEEE entities and organized by Department of Electronics & Communication Engineering with JayPee University of Information Technology – JUIT, in Shimla area of Himachal Pradesh state.

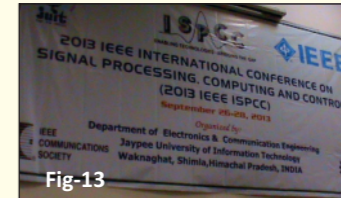


Fig-13



Fig-14

There we had another opportunity to give not only theoretical lectures during three conference days, but also to perform practical demos on assembling antenna cables and connectors, or to simulate radio transmissions, etc. (Fig. 14-16). Thankfully to Ms Kanika Rana (Fig. 14, right) - the student who had already passed her amateur radio examination; Professor Mohammed Usman (Fig. 15, front); and Mr Gagan Khanna (Fig 16, front) - the local radio enthusiast VU2PZA, the future of the hobby at JUIT seems to be bright.



Fig-15



Fig-16

My India journey ended up in Varanasi, Uttar Pradesh state, by performing another 3-day tutorial on the same topics, in the premises of Indian Institute of Technology at Banaras Hindu University (IIT-BHU). Despite the hospitality of people at BHU (Fig. 17 and 18), and similarly to the experience in Burdwan area, the lack of practical possibilities was present in Varanasi region too.



Fig-17



Fig-18

However, the understanding and willingness in Prof. S. P. Singh (Fig. 18, left) - the head of Electronics Engineering Department, and his colleagues, gave us a hope that one of the newest members of the prestigious IIT-family would find its way to accommodate more amateur radio activities in years to come.