

Cathay February 2023

www.cathayradio.org

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Mission: The Cathay Amateur Radio Club is basically an active social club of Ham Radio Operators and their spouses. We support local community requests for HAM emergency communications. Several of us are trained in CPR/ First Aid and are involved with community disaster preparedness.

Monday Night Net Time: 9 PM Local Time/PST, Repeater: WB6TCS - RX 147.210, TX 147.810, Offset +0.6 MHz, CTCSS/Tone PL100 Hz

Please note: Repeater: N6MNV UHF 442.700 Mhz, Offset +5MHz, CTCSS/Tone PL 173.8 Hz in South San Francisco is cross linked every Monday Night Net at 9 p.m. to WB6TCS 2-meter repeater.

The CARC Monday night net is the best way to find out the latest club news. All check-ins are welcome.

Message from the President: George Chong, W6BUR

Hello CARC Members and Friends;

Many thanks to Mr. Denis L. Moore – WB6TCS for the use of his repeater for our CARC Monday Night Net.

I wish to thank our CARC members that set aside their valuable time to participate in our Monday night's nets.

Silent Key

We are still awaiting more information about the passing of Mr. Denis L. Moore – WB6TCS back in Dec 2022. When additional information becomes available it will be posted in a future CARC newsletter.

Many thanks to Cy Moy - AE6CY (formerly WB6TCF) for taking point on following up with this developing sad and heart-breaking news.

Technical Article Introduction:

This month's technical article is about the detection of the farthest ever astronomical radio signals from a distant star-forming galaxy called SDSSJ0826+5630 that is 8.8 billion light years away. The detection of the distant radio signal was made possible by gravitational lensing effect as predicted by the famous physicist Albert Einstein.

For more information, see gravitational lensing

https://en.wikipedia.org/wiki/Strong_gravitational_lensing



The radio was detected by an upgraded 45 meter diameter upgraded Giant Metrewave Radio Telescope (uGMRT) located at about 80 km north of Prune, Junnar, Narayangaon India.

The UGMRT is an [interferometric](#) array with baselines of up to 25 kilometres (16 mi).

It is operated by the [National Centre for Radio Astrophysics \(NCRA\)](#), a part of the [Tata Institute of Fundamental Research, Mumbai](#).

Please go to the Tech Article Section for additional details.

Final Thoughts

Many thanks to for the use of Mr. Robert Moore and Mr. Denis L. Moore (SK) – WB6TCS repeater for our CARC Monday Night Net.

I wish to thank our CARC members that set aside their valuable time to participate in our Monday night's nets.

Stay healthy and keep yourself from catching COVID-19.

Chat sub s'em to all you CARC members! - George W6BUR, CARC President.

Public Service Announcements

HAM CRAM / HAM Licensing

For upcoming HAM Licensing locations please refer to:

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

Auxiliary Communications Service (ACS)

The Auxiliary Communications Service (ACS) is a unit of trained professionals who supply communications support to the agencies of the City and County of San Francisco, particularly during major events/incidents. ACS goals are the support of gathering and distribution of information necessary to respond to and recover from a disaster.

The ACS Net begins at 1930 hours (7:30 p.m. PT) local time each Thursday evening, on the WA6GG repeater at 442.050 MHz, positive offset, tone 127.3 Hz. The purpose of this net is to practice Net Control skills, practice checking in with deployment status in a formal net, and to share information regarding upcoming ACS events. Guests are welcome to check in. ACS members perform Net Control duty on a regular basis. On the second Thursday of each month, the net is conducted in simplex mode on the output frequency of the WA6GG repeater, 442.050 MHz no offset, tone 127.3 Hz.

ACS holds its General Meetings on the third Tuesday of each month from 1900 hours to 2100 hours local time. Currently meetings are exclusively conducted over Zoom during the COVID-19 pandemic, ACS looks forward to meeting in person again as soon as possible.

Upcoming meeting dates in 2023 are:

- TBD

Location of in person future ACS meetings is yet to be determined as the regular location is under reconstruction until January 2023. All interested persons are welcome to attend. For further information, contact Corey Siegel KJ6LDJ <kj6ldj@gmail.com>.

For more information, please attend an ACS meeting, check in on the ACS radio net, or call 415-558-2717.

Free Disaster Preparedness Classes In San Francisco – NERT Taught by San Francisco Fire Department (SFFD).

<http://sf-fire.org/calendar-special-events>

TBD

+ Recertifications - Coming Soon!

Pre-register here!

<https://www.eventbrite.com/e/are-you-a-nert-graduate-looking-to-recertify-pre-register-here-tickets-228380330717?aff=odcleoeventsincollection>

This is not for a specific date or location.

San Francisco Fire Department NERT is collecting information from NERT Graduates to help us plan for the new year. By signing up here, you will receive priority notification about upcoming recertification opportunities. This is for any NERT graduate, regardless of when you graduated or whether your NERT certification has expired. Thank you so much for your commitment to NERT and for providing us with information about when you last trained, etc.

Sign Up For Training Classes

This is not for a specific date or location.

San Francisco Fire Department is collecting contact details from prospective students so we can let you know when classes are available. We will email you when classes become available. We plan on holding multiple trainings for new NERTs in 2023 and the information you provide will help us plan. Thank you!

<https://www.eventbrite.com/e/never-taken-nert-before-let-us-know-you-are-interested-in-2022-trainings-tickets-125825993935?aff=odcleoeventsincollection>

***SFFD DOT** is the Fire Department Division of Training. All participants walking, biking or driving **enter through the driveway gate on 19th St.** between Folsom and Shotwell. Parking is allowed along the back toward the cinderblock wall.

Visit www.sfgov.org/sffdner to learn more about the training, other locations, and register on line. Upcoming Special NERT Events.

San Francisco Police Department: Auxiliary Law Enforcement Response Team (ALERT)

The Auxiliary Law Enforcement Response Team (ALERT) is a citizen disaster preparedness program designed. The ALERT program is for volunteers 16 years of age or older, who live, work, or attend high school in San Francisco.

Graduates of the San Francisco Police Activities League (P.A.L) Law Enforcement Cadet Academy are also eligible to join.

ALERT volunteers will no longer need to complete the Fire Department's Neighborhood Emergency Response Team (NERT) (www.sfgov.org/sfnert) training and then graduate into two 8 hour Police Department course specifically designed for ALERT team members.

ALERT members will work closely with full-time and/or Reserve Police Officers in the event they are deployed after a disaster. The Basic ALERT volunteer will have no law enforcement powers other than those available to all citizens.

SFPD ALERT Training (New Members)

The next SFPD ALERT training class has been scheduled for: TBD

* Class date indicated are only for new members

IMPORTANT- All participants must complete the background interview process in order to be eligible to attend the ALERT training class.

Eligible ALERT participants may register for a training class by contacting the ALERT Program Coordinator, Marina Chacon at sfpdalert@sfgov.org, or by telephone at 415-401-4615.

SFPD ALERT Practice/Training Drill

All active/trained ALERT members are asked to join us for our next training drill, via scheduled for on

TBD

For more information on the San Francisco Police Department ALERT Program, email us at sfpdalert@sfgov.org, or call Lt. Marina Chacon (SFPD Ret.), SFPD ALERT Program Coordinator, at (415) 401-4615.

For additional information on the web please refer to:

<https://sfgov.org/policecommission/alert>

Tech Article:



Record-breaking radio signal from distant galaxy becomes the furthest detected by Earth

By Christ Melore Date: January 20, 2023

<https://studyfinds.org/radio-signal-from-distant-galaxy/>



One of the dishes of the Giant Metrewave Radio Telescope (GMRT) near Pune, Maharashtra, India. Credit: National Centre for Radio Astrophysics

MONTREAL, Quebec — Astronomers are literally examining a radio signal which comes from “a long time ago in a galaxy far, far away.” Scientists at McGill University say this signal is breaking records, coming from a distant galaxy further away from

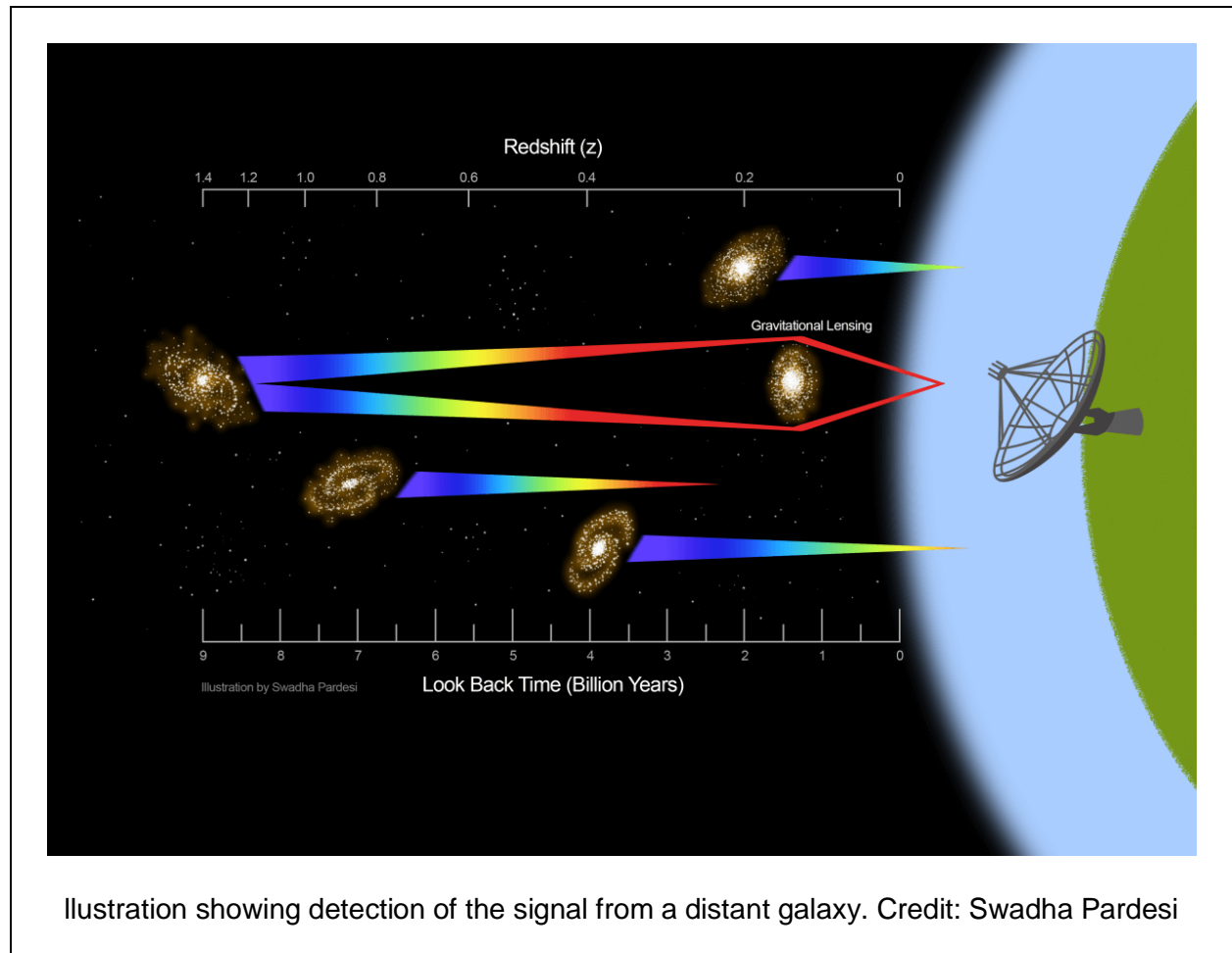
Earth than any other signal before. It's helping researchers learn more about the structure of the universe nearly *nine billion years ago*!

Study authors explain that radio signals emanating from other galaxies weaken over great distances. This means it's more difficult for current radio telescopes to pick up signals from galaxies which are farther away from our planet than others.

In this case, a team from Canada and India captured this record-breaking signal at a specific wavelength known as the 21 cm line. Using the Giant Metrewave Radio Telescope, it's the first time this type of radio signal has been detected at such a long distance.

"A galaxy emits different kinds of [radio signals](#). Until now, it's only been possible to capture this particular signal from a galaxy nearby, limiting our knowledge to those galaxies closer to Earth," says Arnab Chakraborty, a McGill post-doctoral researcher, in a [university release](#).

"But thanks to the help of a naturally occurring phenomenon called gravitational lensing, we can capture a faint signal from a record-breaking distance. This will help us understand the composition of galaxies at much [greater distances from Earth](#)."



The signal dates back 8.8 billion years!

Distant signals don't just reveal something about the galaxies they come from, they also allow scientists to figurately travel back through time. The study finds that this radio signal was emitted by the [star-forming galaxy SDSSJ0826+5630](#) when the universe was just 4.9 billion years-old.

"It's the equivalent to a look-back in time of 8.8 billion years," explains Chakraborty, who studies cosmology at McGill's Department of Physics.

While examining the signal, scientists discovered that the atomic mass of the gas in SDSSJ0826+5630 is nearly twice as massive as the stars we're capable of seeing from Earth.

"Gravitational lensing magnifies the signal coming from a distant object to help us peer into [the early universe](#). In this specific case, the signal is bent by the presence of another massive body, another galaxy, between the target and the observer. This effectively results in the magnification of the signal by a factor of 30, allowing the telescope to pick it up," says co-author Nirupam Roy, an Associate Professor in the Department of Physics at the Indian Institute of Science.

According to the research team, the success of gravitational lensing in this case proves that it's feasible to detect these kinds of signals in faraway galaxies. It opens up the opportunity to probe the evolution of the cosmos using existing [low-frequency radio telescopes](#).

The findings are published in the [Monthly Notices of the Royal Astronomical Society](#).