

# Radio burst inside Milky Way may give clues about fast radio bursts

4 May 2020, by Bob Yirka



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Radio observatories around the world have reported capturing a unique event—a strong, millisecond-long burst of radio waves coming from a type of neutron star inside the Milky Way. Because of its strength, space scientists are hoping that further study will show that it was a fast radio burst (FRB) emanating from within our own galaxy—if so, a great mystery might soon be solved—their source.

FRBs are quick pulses of strong radio waves that have been detected by radio observatories around the world—the first was recorded back in 2001. Since that time, many more have been recorded (most of which never repeat), but scientists have not been able to explain their source. In recent years, many in the field have speculated that they are generated by magnetars—a special type of neutron star with an unusually strong [magnetic field](#). They may generate FRBs, researchers have suggested, when the balance between their magnetic field and their [gravitational force](#) leads to super-strong starquakes followed by massive [magnetar](#) flares. To date, the FRBs that have been observed have come from a source that was so far

away that it was impossible to tell if they were being generated by magnetars, much less by their strong quakes. So this new powerful radio burst has generated much excitement. Not only did it come from an identifiable magnetar (SGR 1935+2154), but it was close enough for researchers at radio observatories to also measure the X-ray counterpart of the burst—something previously impossible with FRBs.

Initial reports suggest the strength of the radio burst was strong enough to have looked to nearby galaxies very much like an FRB (though one of the weaker ones), suggesting that the burst may indeed have been an FRB. The X-ray emanations were not particularly strong, either, but their existence suggests there may be more information to study in other previously recorded FRBs.

The [radio](#) burst occurred on April 28; thus, very little research has been carried out as yet. Researchers will have to analyze its spectrum before it can be properly compared to FRBs. If it does match some of the other FRBs, some in the field have cautioned, it could very well represent just one particular FRB source type.

## More information:

[www.astronomerstelegram.org/?read=13681](http://www.astronomerstelegram.org/?read=13681)

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