A Repeating Fast Radio Burst is Uncovered In A Nearby Galaxy

Earlier on Monday, astronomers were able to locate the source of one of only two repeating fast radio bursts(FRB) that have emitted from space. The home of this strange FRB is surprisingly in a nearby Milky Way style galaxy.

These fast radio bursts are only millisecond long radio waves that are emitted in space. Lone radio bursts only repeat once, however the repeating radio bursts are more frantic and energetic, sending out more radio waves. Energy emitted by these repeating FRBs are incredibly strong. This new repeating FRB has shed light on new possibilities to what may be the cause of them, but they still bring great mystery to the science world.

The newly located FRB, known as 180916.J0158+65 or FRB 180916 for short, was found incredibly close to our planet at only just half a billion light years away. In comparison, the other repeating FRB, FRB 121102, was 6 times farther away. In order to locate FRB 180916 accurately, eight ground-based telescopes from around the world had to be used. A technique called Very Long Baseline Interferometry was used to combine the power of the eight telescopes and accurately locate the FRB.

This newly found FRB 180916 appeared to be in the outer spiral arm of a Milky Way type galaxy. Strangely, the new FRB was found to be in a “V” shaped star forming region of its galaxy. Scientists were able to figure out that it was a star forming region by measuring the levels of ionized gas, because newborn stars produce huge amounts of ionized energy. Unlike FRB 180916, FRB 121102 was traced back to a tiny dwarf galaxy.

FRB 180916 brings up tons of questions about these repeating fast radio bursts and the non-repeating radio bursts. Even though finding a new repeating FRB sounds exciting, these two different repeating FRBs are completely different. Also, the non-repeating fast radio bursts differ even more from this newly found repeating FRB.

Scientists need to just investigate FRB 180916 more in-depth. Perhaps understanding the host environment and maybe soon scientists will truly understand the radio bursts or even being able to have a better understanding of the universe itself.