

NASA image captures powerful energy at the heart of the Milky Way

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X-ray: [NASA/CXC/UMass/Q.D. Wang](#); Radio: [NRF/SARAO/ MeerKAT](#)

Source X-ray: [NASA/CXC/UMass/Q.D. Wang](#); Radio: [NRF/SARAO/MeerKAT](#)

POWERFUL threads of energy interweave at the heart of the Milky Way in this spectacular image released by NASA. It is designed to give a broader view of the [centre of our galaxy](#) and provide insight into solar weather.

The image was created using data from two [telescopes](#): NASA's [Chandra X-ray Observatory](#), orbiting up to 139,000 kilometres above Earth, and the MeerKAT radio telescope in South Africa.

White threads denote superheated gas and magnetic fields. [X-rays detected by Chandra from super-hot](#) sources like exploded stars show as blue, green, orange or purple, depending on the energy of the radiation, while radio waves detected by MeerKAT are lilac and grey.

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The thread marked by a rectangle is around 20 light years long, the equivalent of 189 trillion kilometres, and is especially interesting. It consists of both X-ray and radio emissions, which astronomers think could be bound together by thin strips of magnetic field, formed by a process in which magnetic fields collide and twist round each other.

This process is called magnetic reconnection, and it helps drive space weather, a phenomenon also created by activity on the sun's surface. Space weather can affect Earth by damaging satellites and causing electrical blackouts, so studying energy threads helps us better understand its impact.