

WF-section

Spitzer Space Telescope Reveals Gigantic Cosmic Cataclysm



By Staff

(AXcess News) Reno, NV - Recent infrared observations made with NASA's Spitzer Space Telescope have revealed the presence of a huge intergalactic shock wave, or "sonic boom" in the middle of Stephan's Quintet, a group of galaxies which is now the scene of a gigantic cosmic cataclysm.

When astronomers using NASA's Spitzer Space Telescope turned their attention to a well-known group of galaxies called Stephan's Quintet, they were, quite simply, shocked at what they saw. There, sweeping through the group, lurks one of the biggest shock waves ever seen.

For decades, astronomers using optical telescopes have known that the galaxies in this group, located about 300 million light years away, have a very distorted distribution of visible light from stars, indicating that the galaxies have experienced encounters in the past, and are now engaged in further collisions. But this, as it turns out, is only part of the drama. Recently, astronomers have become able to measure what, apart from the stars, is present in Stephan's Quintet. By looking in the radio and X-rays they discovered huge quantities of gas - about 100,000 million solar masses, mainly composed of hydrogen and helium - in the space between the galaxies, more than all the gas inside the galaxies themselves.

Now, a team of scientists from Caltech, USA and from the Astrophysics Department of the Max Planck Institute for Nuclear Physics (MPIK) in Heidelberg, Germany, together with other collaborators from the USA and Australia, have turned the Spitzer Space Telescope, equipped with a super-sensitive infrared spectrograph, towards the location of the group. They discovered that one of the galaxies, called NGC7318b, which is falling towards the others at high speed, is generating a giant shock wave in front of it - larger even than the Milky Way - as it ploughs its way through the intergalactic gas. The results of this amazing discovery are to be published on March 10th in a paper in the *Astrophysical Journal Letters*.

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