

Oxygen molecules detected in Orion constellation

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For the first time, molecular variety of Oxygen has been discovered in space in Orion constellation of stars which forms clouds.

While atomic oxygen has been long known in warm regions of space, previous missions looking for the molecular variety — two atoms of oxygen bonding together — came up largely empty—handed.

NASA's Submillimetre Wave Astronomy Satellite and Sweden's Odin mission have both searched for molecular oxygen and established that its presence is much lower than expected.

Paul Goldsmith, NASA's project scientist at Jet Propulsion Lab, California, and an international team of investigators went looking for it with European Space Agency's Herschel project, according to a NASA statement.

They used Herschel's HIFI far—infrared instrument and targeted Orion, where they reasoned that the forming stars would heat the surrounding gas and dust.

Using three infrared frequencies of the instrument, the Herschel Oxygen Project team was successful. They found one molecule of oxygen for every million hydrogen molecules in Orion.

“This explains where some of the oxygen might be hiding,” said Goldsmith.

“But we didn't find large amounts of it and still don't understand what is so special about the spots where we found it. The Universe still holds many secrets,” he added.

Oxygen, in all its forms, is the third most abundant element in the Universe and a major ingredient of our planet.

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