

When does our atmosphere end and space begin? The answer is — up in the air

Outer space is fundamentally different from what we experience down here, isn't it?

But is there a boundary? Is there a place above our heads where you clearly transition to being in outer space?

This is a question that has been debated for decades and to which there is still no good answer, according to the United Nations Office for Outer Space Affairs.

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Our atmosphere is made up of different layers, but these layers show no clear transition point to outer space, either. The second highest layer is called the thermosphere, which extends from about 70 to 700 kilometres, according to NASA.

The International Space Station, which orbits about 400 kilometres above our heads, is located in the thermosphere.

Intuitively, this seems like outer space, but there is still some air here. The distance between the air molecules is much, much farther apart than in the atmosphere lower down, but it is enough for the space station to be slowed down a little by the air.

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The atmosphere continues far above the space station. The outermost part of the atmosphere is called the exosphere, and it continues all the way up to about 10 000 kilometres above the Earth's surface. The atmosphere becomes less and less dense until it becomes almost impossible to distinguish it from what is called outer space.

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