



Sixty Second Adventures in Astronomy

Taking a Galactic Census

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(Animation)

60 Second Adventures in Astronomy. Number thirteen, Taking a Galactic Census.

How do you take a census in space?

Keeping track of millions stars is quite a tricky job – especially as they are constantly moving. Luckily the new Gaia spacecraft is coming to the rescue – from a position of about one and a half million kilometers from the earth - ready to do a whole lot of measuring.

With its two optical telescopes, Gaia will be able to map over a billion stars by measuring minute changes of position against the background of other stars – this is known as parallax. And, as well as measuring how old and bright they are – by measuring their Doppler shifts – it can tell us whether those stars are moving towards us or away from us.

And if that's not impressive enough – by measuring the bending of starlight by the sun's gravitational field – it will be able to test Einstein's theory of General Relativity.

In the end Gaia will deliver us a map of the Galaxy. And not just any map - it will be in 3D, show us how everything is moving, and help us get a better understanding of how the whole thing began and where it's heading.

So, taking a census in space will be a much more realistic proposition.