

## SOMETHING IS WRONG WITH OUR MODEL OF THE UNIVERSE...

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## EYE OPENER

## A map of many colours

OBSERVATORY, ARIZONA, USA

What you're looking at here is a map. Not of Earth, the Solar System, or even the Milky Way, but of the Universe on the most astronomical of scales. This sprawling multi-coloured web contains some 600,000 galaxies and is superimposed onto an image of NOIRLab's Nicholas U. Mayall 4-meter Telescope, which was used to capture the data. The map was put together as part of the Dark Energy Spectroscopic Instrument (DESI) survey, a five-year mission to create the largest 3D map of the Universe. So vast is this data set, and by extension, our Universe, that all the galaxies here represent less than 0.1 per cent of the full survey volume. Feeling insignificant yet?

To map the cosmos, DESI breaks down the light from galaxies into their constituent colours. Astronomers can tell how far away a galaxy is based on how much of its light has shifted to longer, redder wavelengths. In the image, the redder regions are further from us, the blue ones closer.

"These first-year data are only the beginning... and hint at the extraordinary science to come," says Pat McCarthy, director of NOIRLab.

DESI COLLABORATION/NOIRLAB/NSF/AURA

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