

Classroom Activities

10 Big Questions: How did the universe begin?*

How to view a Gravitational Wave:

You will need:

- A felt pen
- Stretchy fabric.

The easiest way to picture the effect of a gravitational wave is to put a grid of dots on the stretchy fabric, which will represent space-time.

A passing gravitational wave stretches space-time in one direction and compresses it in another, and as the wave continues to pass the effect reverses.

Now stretch the fabric and observe how the separation of the dots changes.

Observe what happens to their relative separation if their starting distance increases.

What happens to the separation of the dots in a direction perpendicular to the stretch direction?

This classroom activity was suggested by Dr Matthew Heintze & Dr David Ottaway. Dr Matthew Heintze- a recent PhD graduate of the University of Adelaide; currently works at the LIGO Livingston Observatory just outside New Orleans in Louisiana, USA.

Dr David Ottaway is a Lecturer at the School of Chemistry and Physics and the Institute for Photonics and Advanced Sensing (IPAS), The University of Adelaide, University of Adelaide.

* To find out more about the 10 Big Questions, go to:

<http://www.sciences.adelaide.edu.au/learning-teaching/10bq/>

Further Information

Ph: (08) 8313 5673

Fax: (08) 8313 4386

Email: faculty.sciences@adelaide.edu.au

Web: www.sciences.adelaide.edu.au