

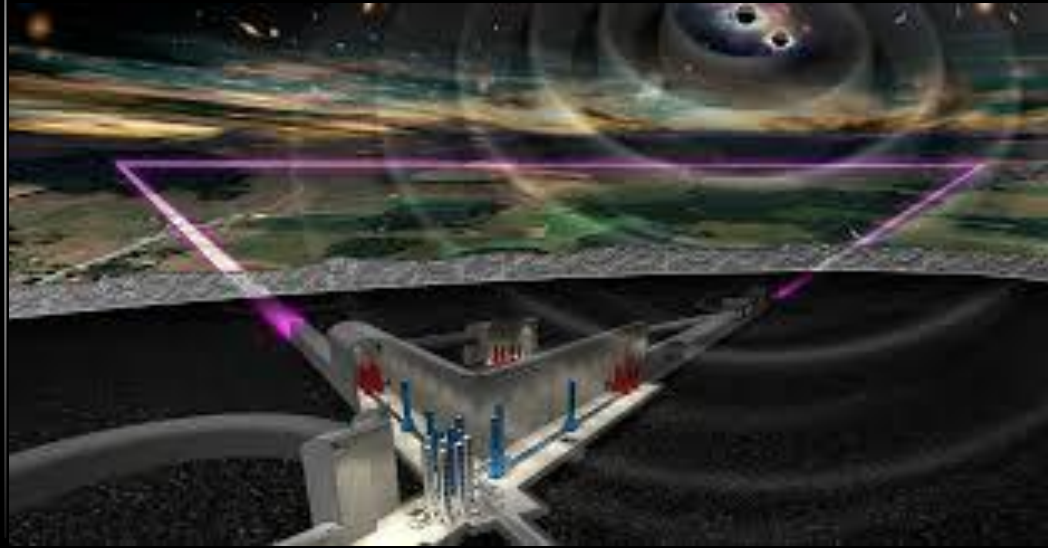
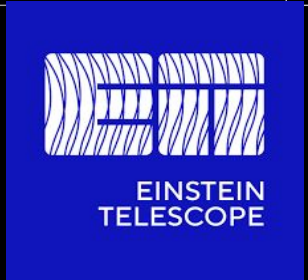
Next Generation GW telescopes



Cosmic Explorer

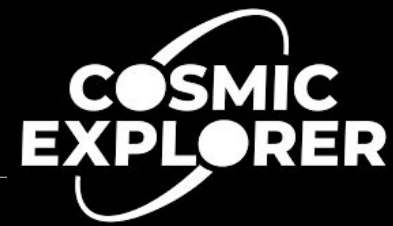


Einstein Telescope



Cosmic Explorer

Science Traceability Matrix: Dark Matter



- What effects or signatures could be observed with GW detectors?
- Can these signatures be distinguished from those of standard (vanilla) NSs that don't include DM?
- Apart from GWs, are there other ways to constrain the chosen DM model or scenario? How well can these be tested with current surveys? How do those constraints compare to what we could get from GW observations?
- Is this particular DM scenario something that only GWs can probe?
- What kind of measurements are needed to place significant constraints on DM scenarios? And how exactly should we define what counts as a "significant constraint"?

**If you are interested in joining the efforts, please contact me
v.sagun@soton.ac.uk**

Closing

An abstract graphic featuring a green grid floor that recedes into the distance. Several blue spheres of varying sizes are scattered across the grid. Two prominent blue beams of light originate from the top center and point downwards towards the spheres. The background is black.

DARK MATTER AND STARS

MULTI-MESSENGER PROBES
OF DARK MATTER AND
MODIFIED GRAVITY

QUEEN'S UNIVERSITY
KINGSTON, CANADA
14-16 JULY 2025

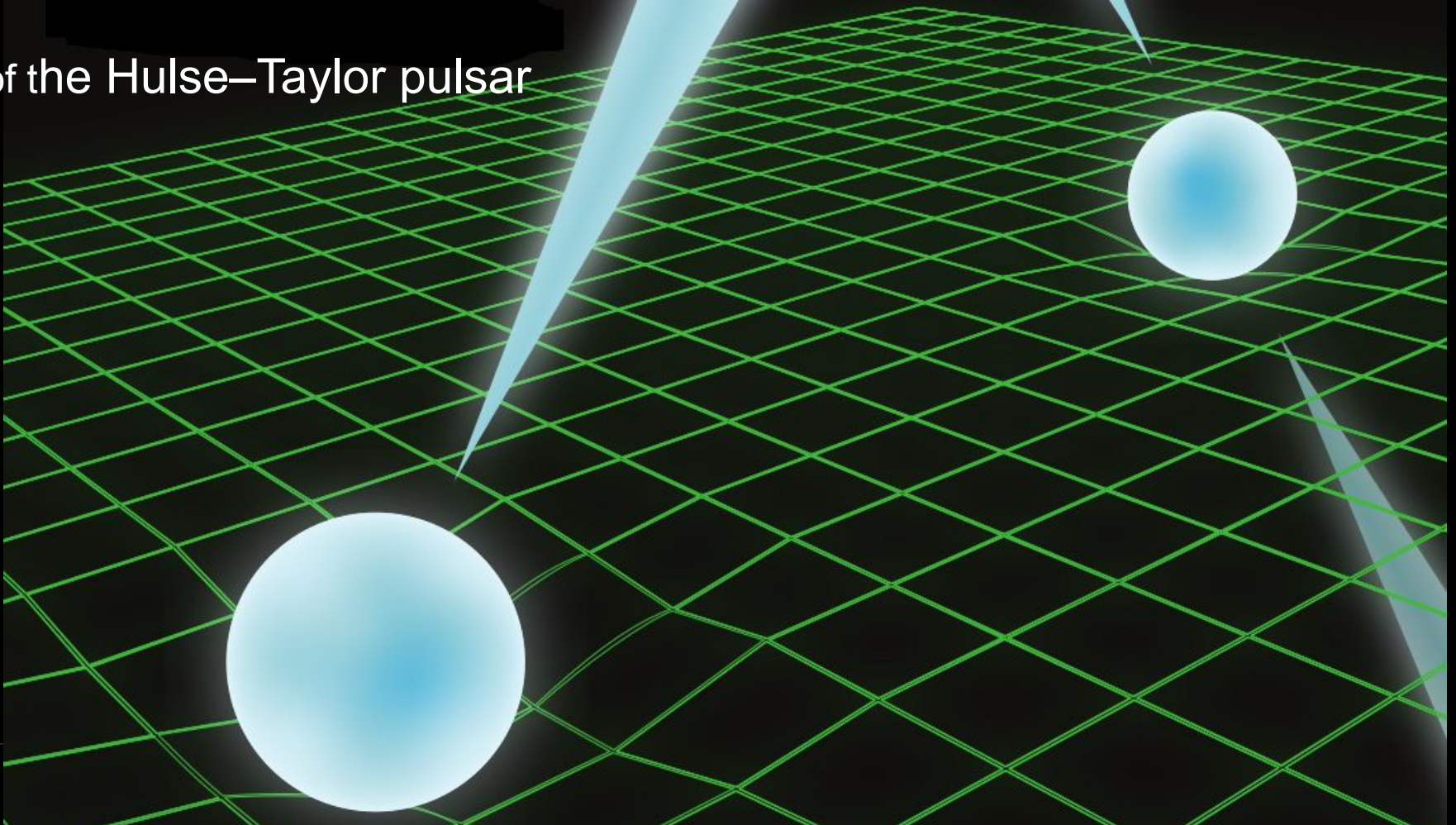
A VERY BIG THANK YOU TO ALL THE PARTICIPANTS FOR BEING HERE AND FOR THE GREAT QUALITY OF THE PRESENTED TALKS AND USEFUL DISCUSSIONS, YOU ALL MADE THIS CONFERENCE AN OUTSTANDING EVENT!



The Hulse–Taylor pulsar became the theme for the 3rd edition of the ICDMS

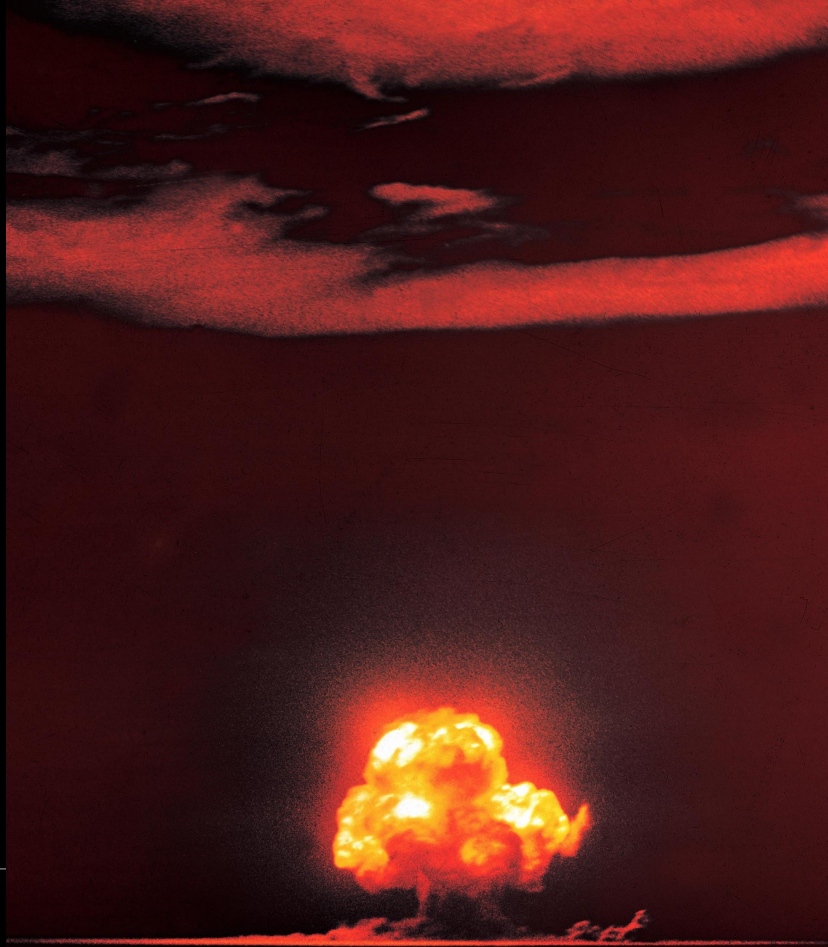
The pulsar was discovered by Russell Alan Hulse and Joseph Hooton Taylor Jr. in 1974 and published in 1975.

50 years of the Hulse–Taylor pulsar



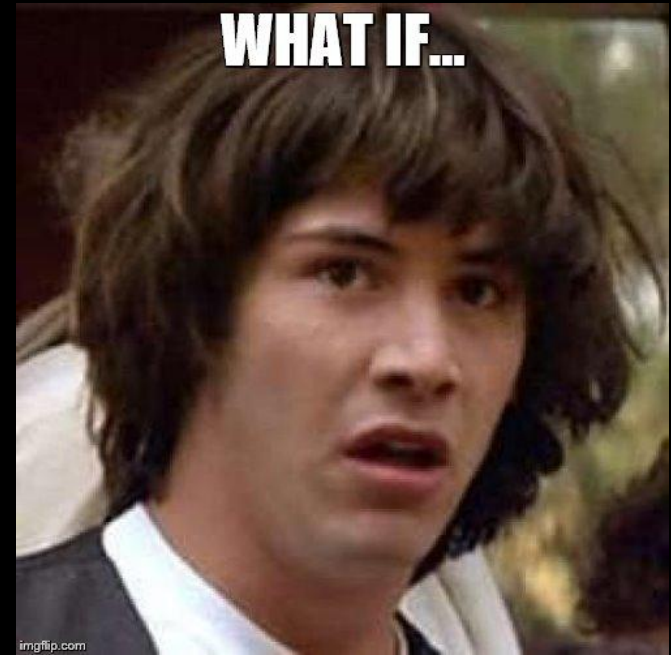
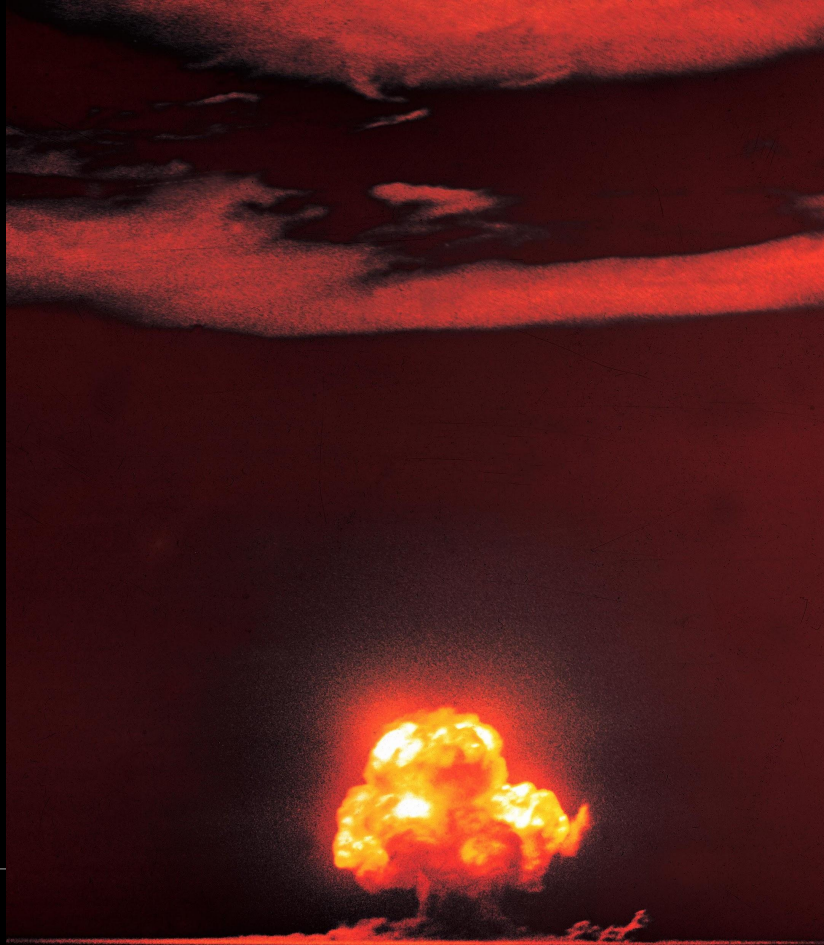
80 years ago, the Trinity test

On July 16, 1945, the first nuclear weapon was detonated in the Jornada del Muerto, New Mexico



80 years ago, the Trinity test

On July 16, 1945, the first nuclear weapon was detonated in the Jornada del Muerto, New Mexico



DM was created during the explosion...

ORGANIZING COMMITTEE



Nikhil Arora



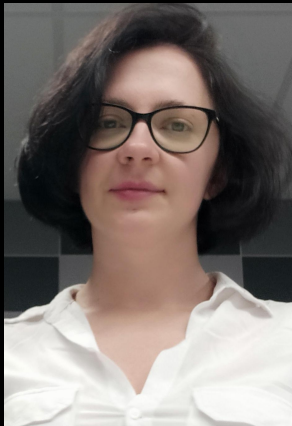
Joe Bramante



Edoardo Giangrandi



Ilídio Lopes



Violetta Sagun



Edward Thomas



Aaron Vincent

When and where is the next edition of "Dark Matter and Stars"?

DARK MATTER AND STARS CONFERENCE



Dark Matter and Stars 2027

Massachusetts Institute of Technology



Dark Matter and Stars 2026

We're also thinking about organizing the conference in Europe in 2026

Stay tuned!

See you soon!
Have a safe travel!

