

EL UNIVERSO OSCURO

The background of the slide is a deep blue space scene. On the left, there's a nebula with shades of blue and purple. A bright, glowing arc of light, possibly representing a galaxy or a lensing effect, curves from the bottom left towards the center. Numerous thin, white lines radiate from a point near the center of this arc, resembling star trails or light rays.

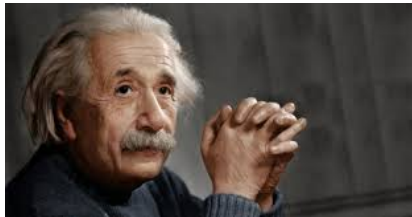
Juan Barbosa

INTRODUCCIÓN



Torsten Boker y col. "A Hubble Space Telescope census of nuclear star clusters in latetype spiral galaxies. I. Observations and image analysis". En: *The Astronomical Journal* 123.3 (2002), pág. 1389

INTRODUCCIÓN



En 1917 Albert Einstein publica su teoría de la relatividad general.

$$R_{\mu\nu} - \frac{1}{2}Rg_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu} \quad (1)$$

$$\Lambda \neq 0 \quad (2)$$

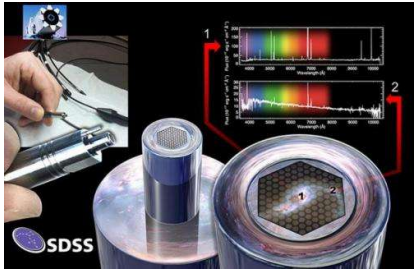


Para 1929 Edwin Hubble había demostrado que el universo estaba en expansión

$$cz = H_0 d \quad (3)$$

CORRIMIENTO AL ROJO

$$z = \frac{\lambda - \lambda_0}{\lambda_0} \quad (4)$$



Max Tegmark y col. "Cosmological constraints from the SDSS luminous red galaxies". En: *Physical Review D* 74.12 (2006), pág. 123507