



DEPARTAMENTO DE FÍSICA
UNIVERSIDAD DE SANTIAGO DE CHILE

CICLO DE SEMINARIOS DE FÍSICA

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“Binary Pulsar B1913+16: An outstanding probe of gravitation and stellar evolution”

The first binary pulsar PSR B1913+16 was discovered in 1974. The two neutron stars in the system each travel at high speeds in their tight orbits, deep in the gravitational well of their companion. The one visible pulsar emits regular pulses tied to its 16-Hz rotation, which act like the "ticks" of a precise clock. As a result, this system has proved to be an outstanding probe of relativistic gravitation, including the first observational proof of the existence of gravitational radiation. The evolutionary path leading to the current orbital configuration includes episodes of mass transfer between the two stars, and the spin-up of the pulsar due to accretion of matter and angular momentum from its then-swollen companion.

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