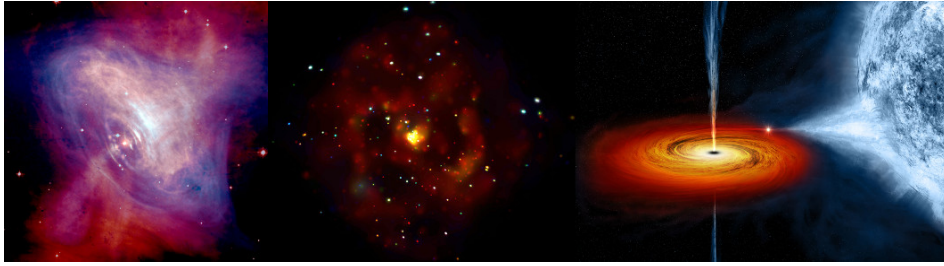


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## The light bending phenomenon for a pulsar-black hole binary

We devise a full general relativistic formalism to study the delays caused by the light bending effect in the signal of a radio pulsar in a binary. This delay is non negligible for neutron star - neutron star binaries and even stronger for neutron star - black hole binaries. We calculate bending delays for hypothetical neutron star - black hole binaries. The values of the bending delays obtained in our method match with the values obtained by an approximate method already known. However, the old method is valid only when the pulsar is at the superior conjunction and our method is valid for any configuration. Moreover, our formalism results in some additional features like a discontinuity in the delay curve near the superior conjunction, etc. We also show that the bending distorts the intensity distribution across the beam and as a result change the shape of the pulse profile.

### Presentation Type

Poster

**Primary author:** DEBNATH, Jyotijwal (IMSc)

**Co-authors:** Dr BASU, Avishek (Jodrell Bank Centre for Astrophysics); Prof. BAGCHI, Manjari (IMSc)

**Presenter:** DEBNATH, Jyotijwal (IMSc)

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