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A new view on the Lighthouse Nebula, IGR J11014-6103

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Despite jets are detected in all kind of accreting systems, bright and elongated jets are known to be formed also by isolated rotationally powered pulsars.
PSR J1101-6101 in the Lighthouse Nebula is an isolated pulsar which is powering a bright wind nebula and two jets, while travelling at supersonic velocity in the interstellar medium. Extending over 15 pc, the jets are more than 10 times longer than the well known Crab pulsar's jets, and are the most elongated X-ray jet(s) seen in our Galaxy. Unexpectedly, the jets are perpendicular to the direction of motion. The wind nebula is tracing the passage of the pulsar in the medium, pointing back to its parent supernova remnant.

The latest data obtained with the Chandra X-ray Observatory give a fresh view on this system. The imaging capabilities of Chandra were used to pinpoint the launching site of the outflows. The new data are enlightening spatial and spectral properties of the jets and of the wind nebula.

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