

Determination of the rotational period of the comet 29P/Schwassmann-Wachmann-1 using dynamics of the dust structures (jets) in the coma

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Abstract. We present analysis of the photometric data of the distant comet 29P/Schwassmann-Wachmann-1, obtained at the 6-m BTA telescope (SAO RAS, Russia) and at the 2-meter telescope Zeiss-2000 (ICAMER, KB). The comet shows significant jets activity at large heliocentric distances, beyond the zone of water ice sublimation. Various digital filters were applied to increase the contrast of the jets and separate them. The rotation period of the nucleus was derived using cross-correlation method. The value of the rotation period is 12.1 ± 1.2 days for observations made in 2008 and 11.7 ± 1.5 days for observations made in 2009.
