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Preliminary VLA analysis of changes in Jupiter's synchrotron emission after the collision of an object with Jupiter in July 2009

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At approximately 1330 UTC on 19th July 2009, a dark mark was reported in Jupiter's South Polar Region. The origin of this new scar in the southern hemisphere was rapidly associated with a large impact - either an asteroid or comet - similar to the Shoemaker-Levy 9 (CSL-9) impacts in 1994. The collision of CSL-9 with Jupiter in 1994 caused spectacular effects in the upper atmosphere and ionosphere, as well as very dynamic phenomena observed in the Jovian auroral and radiation zones.

We will present our preliminary results of VLA data analysis to investigate the effect in the dynamics of Jupiter's radiation belts of the object that hit Jupiter on July 19, 2009. During our VLA 2009 campaign, Jupiter was observed at 20- and 6-cm wavelengths during 11 days between mid-June and mid-September. Two-dimensional maps of total flux and two-dimensional reconstructions of the equatorial brightness distribution of the radiation-belt radio emission will be discussed to determine the role of the July 2009 impact to the changes in the Jovian zones clearly observed during the Summer 2009.