EVLA Observations of Water Maser Emission in the merging galaxyS26cNGC 6240

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We present observations of 22 GHz water maser emission in the merging galaxy NGC 6240 using the Expanded Very Large Array (EVLA). The galaxy hosts double compact radio nuclei (northern and southern nuclei) with an angular separation of $\approx 1^{\circ}.5$ in its center. Two epochs of EVLA observations at about 0°.2 angular resolution by covering the Doppler-shifted velocity range about $\pm 1,500$ km/s with respect to the galaxy's systemic velocity were conducted in July-August 2011.

We detect two water maser features from the brightest nucleus, the southern nucleus, with isotropic luminosity of ~ 5-7 L_{\odot}. The detected maser features in the southern nucleus remain unresolved and are redshifted by about 300 km/s from the systemic, while there has found no maser in the northern nucleus.

The two-epochs EVLA observations show that there is the weak correlation between the strength of the maser and the 22 GHz radio continuum emission, possibly indicating that the maser excitation is related to the activity of an active galactic nucleus in the southern nucleus. These new results will be complemented with earlier VLA observations of the maser made in 2001, 2008, and 2009.