

## Poster: Discovery of periodicity in the methanol maser G323.459-0.079

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Astrophysical methanol maser sources provide valuable insights into the massive star formation process. Some exhibit periodic variation of change in flux density ranging from months or even years, which are thought to be caused by either massive colliding wind binary systems or pulsating stars due to high rates of on-going accretion. The methanol maser source G323.459-0.079 is an ultra-compact HII region (UCHII) with a near kinematic distance of 3.8 kpc and a luminosity of  $1 \times 10^5$  solar luminosities. The associated 6.7 GHz methanol maser was discovered by MacLeod et al. (1992) and then detected by others in the 1990s with flux densities between 10 and 20 Jy. Even as late as 2006-7 this methanol maser was found to be only 18 Jy in the Methanol Multi-Beam survey (Green et al. 2007). We completed another epoch of 81 methanol sources using the 26-metre Hartebeesthoek radio telescope in 2015. In this survey, we found that for G323.459-0.079 its associated methanol maser increased by a factor of 28 to a peak flux density of 504 Jy. We included this source in the Hartrao maser monitoring programme. Here we present the results of this monitoring and report that several 6.7 GHz methanol maser features are periodic with a period of 95 days.

*Galactic Scale*