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**Water Masers in the Star Forming Region G23.71-0.20** MARK

SMITH, Western Illinois Univ, ESTEBAN ARAYA, Western Illinois University — Star forming regions are sites where favorable physical conditions lead to gravitational collapse of molecular cores, resulting in the formation of protostellar systems and eventually new stars and planets. Masers have been found in star forming regions. Masers are characterized by intense microwave radiation due to population inversion and stimulated emission. Examples of maser species in massive star forming regions are water and formaldehyde. G23.71-0.20 is one of seven massive star forming regions in the Milky Way where both H<sub>2</sub>CO and H<sub>2</sub>O masers have been found. Han et al. (1998) reported a H<sub>2</sub>O maser at a velocity of -40.3km/s in G23.71-0.20, in contrast, the formaldehyde maser in the region is found at a velocity of 79.2km/s. The velocity difference between the two masers is quite significant ( 120km/s) and suggests a high velocity outflow. We report a study intended to investigate water masers in G23.71-0.20. We did not detect the Han et al. (1998) maser, instead, H<sub>2</sub>O masers at 67.8km/s and 79.6km/s were found. We discuss the association of the water masers relative to the H<sub>2</sub>CO and other molecular masers in this region. Comparing our data with H<sub>2</sub>O maser measurements reported by Bartkiewicz et al. (2011), we find that H<sub>2</sub>O masers in this region are highly variable.

Mark Smith  
Western Illinois Univ

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