

SYMPOSIUM ON NEW TECHNOLOGIES FOR FUTURE SPACE ASTRONOMY MISSIONS (A7)  
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## SPACE ASTRONOMY AND OUR UNDERSTANDING OF MASSIVE STAR FORMATION

**Abstract**

The formation process of massive stars (stars of mass  $\geq 8$  solar masses), unlike their low mass counterparts, is one of the poorly understood concepts in the field of Astronomy. Recently, development in Radio Astronomy has provided some clues but limitations in sensitivity has continue to obscure our understanding of the formation mechanism of massive stars. Very Long Baseline Interferometry (VLBI) technique has been useful in the attempt to unravel this mystery. In my work, I present the results of the VBLI Exploration of Radio Astrometry (VERA) and Japanese VLBI Network (JVN) of Cepheus A and NGC 6334I(N) (massive star-forming regions) observations. These observations were carried out in the K band, line emission. The Very Long Array (VLA) observation of the continuum sources in the Cepheus A region was also used from the VLA archives to look into this concept. Even with the currently achieved high resolution, Earth observation of star-forming regions is still limited by the distance to the regions (several kilo parsecs) and earth's atmospheric limitations. Space Astronomy would go a long way in proffering solution to sensitivity problems if combined with earth stations as in the case of VLBI Space Observatory Project (VSOP) thus synthesizing a longer baseline. The vantage position in space reduced the interference and scattering effects of the atmospheric water vapor. Space Astronomy promises to provide a better means of finding answers to the questions of massive star formation.