

Poster

Splinter HotStars

THE FORMATION OF THE OBSERVED WOLF-RAYET STARS IN THE
MAGELLANIC CLOUDS IS NOT DOMINATED BY MASS TRANSFER IN
BINARIES

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Classical Wolf-Rayet (WR) stars are evolved, hydrogen-poor stars characterized by powerful, radiation-driven stellar winds. Massive stars reach the WR phase after having shed much material via either stellar winds or mass-transfer in binary systems. Current evolutionary models predict that the majority of WR stars at the low metallicity environments of the Magellanic Cloud form via mass-transfer in binaries.

Using the PoWR code, we performed a non-LTE spectral analysis of the complete population of Wolf-Rayet binaries in the Small and Large Magellanic Clouds (SMC and LMC), testing mass-luminosity relations against orbital masses, and constraining evolutionary channels for each system using the BPASS and BONNSAI tools. A comparison with evolutionary tracks reveals that, while mass-transfer in binaries may have played a role in their detailed evolution, it does not dominate the formation of WR stars in the Magellanic clouds.