

Observed luminosity difference between isolated and binary millisecond pulsars

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ABSTRACT: Bailes et al. (1997) have suggested that there is a luminosity difference between isolated and binary millisecond pulsars. We confirmed their results using an updated catalog. This is a somewhat surprising result considering that isolated MSPs are thought to evolve from binary MSPs that have ablated their companions. We explore the possibility that isolated MSPs have undergone more magnetic field decay than their binary counterparts and are therefore less luminous. We also explore alternative evolutionary scenarios for isolated MSPs.