The Discovery of a Rare WO-type Wolf-Rayet Star in the Large Magellanic Cloud

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While observing OB stars within the most crowded regions of the Large Magellanic Cloud, we happened upon a new Wolf-Rayet star in Lucke-Hodge 41, the rich OB association that contains S Doradus and numerous other massive stars. At first glance the spectrum resembled that of a WC4 star, but closer examination showed strong OVI Î»Î» 3811, 34 lines, leading us to classify it as a WO4. This is only the second known WO in the LMC, and the first known WO4 (the other being a WO3). This rarity is to be expected due to these starsâ€™ short lifespans as they represent the most advanced evolutionary stage in a massive starâ€™s life before exploding as SNe. This discovery shows that while the majority of WRs within the LMC have been discovered, there may be a few WRs left to be found.

Reference: Astronomical Journal, in press
Status: Manuscript has been accepted

Weblink: http://arxiv.org/abs/1210.0062

Comments:

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