



IAUS-REG-NUMBER: IAUS-127

NAME: Albert Zijlstra

AFFILIATION: The University of Manchester

CONTRIBUTION: Talk

TITLE: The planetary nebula mimic formed in the supernova of 1181

AUTHORS: Albert Zijlstra, Quentn Parker, Foteini Lykou, Andreas Ritter

AFFILIATIONS:

ABSTRACT:

Amateur astronomers uncovered a 2' nebula from WISE images which turned out to be one of the most unusual 'planetary nebulae' yet known. The central star has a spectrum dominated by unidentified lines which we have attributed to O VIII. The star is devoid of hydrogen or helium. Gvaramadze et al (Nature, 2019) and Oskinova et al (A&A Letters, 2020) proposed that the star formed in a double degenerate merger, leading to a type Iax supernova. We have derived the age of the nebula, and find that the star agree with the location and age of the supernova of 1181, the only galactic supernova since 1000 without a certain counterpart. Type Iax supernovae are subluminous, and account for 30% of type Ia SNe. This is the only such object where both the explosion and the remnant have been identified, and it is the only (working) stellar remnant of any supernova. We present our observations and use the nebula to derive the ejecta mass of this merger event.