

**W42c Systematic search of optically thick magnetic rotating wind solutions for double white dwarf merger remnants : sub-Chandrasekhar mass case**

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**BACKGROUND:** Stellar wind, being one of the major contributors to the mass loss from the white dwarf (WD), is key to understanding stable paths that lead to different merger products. In this study we conduct a 1-dimensional numerical search over a large parameter space in order to identify stable wind solutions of potential interest.

**METHODS:** We investigate optically thick rotating magnetic winds from the remnants of binary white dwarf (WD) mergers. Focusing on sub-Chandrasekhar mass system with an ONe core and Carbon burning near the surface, we systematically search steady wind solutions with extending the method given in Kashiya, Fujisawa, Shigeyama 2019. This lead to some interesting findings about the relationship between the variables in the parameter space.

**RESULTS:** We identify a possible range of photospheric temperature, luminosity, and mass loss rate for a given set of WD mass, angular frequency, and magnetic field strength. With further systematic investigation we determine the physical origin and implications of this result.

**DISCUSSION:** These results are useful to observationally search double WD merger remnants in our Galaxy and to constrain the evolutionary history.