

# 青山学院大学 物理科学科 コロキウム

2021年度 第1回

下記の通りコロキウムを企画致しました。学生や分野の違う方にもわかるレベルから始めて下さるようお願いしてあります。どなた様もご自由に是非ご聴講ください（事前参加登録なし）。

（世話人：鈴木 岳人、連絡先：t-suzuki@phys.aoyama.ac.jp）

「主催：物理科学科、基礎科学コース、機能物質創成コース」

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**講演者** 檜山和己 氏 (東京大学ビッグバン宇宙国際研究センター)

**日時** 9月3日 (金) 16時50分から

**場所** オンライン

Zoom リンク：田中周太氏 (sjtanaka@phys.aoyama.ac.jp) にお問い合わせください。

**講演題目** A white dwarf merger remnant in the Galaxy

Merger products of white dwarfs (WDs) composed of carbon and oxygen have been thought to result in type Ia supernovae, neutron stars, rejuvenated hydrogen-deficient stars, or strongly magnetized massive WDs. Though all of these consequences are of particular importance in astrophysics, we do not reach consensus on what conditions determine the fate partly because of a limited chance to directly observe the merger products. Recently, Gvaramadze et al. (2019) reported observation of an extremely hot WD in a mid-infrared nebula IRAS 00500+6713 that exhibits some features predicted for a “young” merger product ( $\sim 1-10$  kyr after the merger). The spectroscopic observation indicates the existence of a neon-enriched carbon/oxygen wind with a terminal velocity of  $\sim 16,000$  km/s and a mass loss rate of  $\sim 3.5 \times 10^{-6}$  Msun/yr. An X-ray followup observation with XMM-Newton revealed a nebula surrounding the central WD. In this talk, I will present a theoretical model of the IRAS 00500+6713 system that consistently explains the observed multi-wavelength data and discuss the implications on the physical properties and the evolutionary history of the merger remnant.

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