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RESCEU コロキウム

東京大学大学院理学系研究科　附属ビッグバン宇宙国際研究センター

日　時：2021 年 5 月 20 日（木）15：00 ～16：00

場　所：オンライン（Zoom）

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Radio constraints on the nature of superluminous supernovae and their host galaxies

Abstract

Superluminous supernovae (SLSNe) are extremely luminous explosions (>10-100x brighter than ordinary Type Ia and core-collapse SNe), and their energy source and progenitor are still a matter of debate. Radio observations provide useful constraints on physical properties and environments of SLSNe. We have conducted late-time radio continuum observations of a sample of SLSNe and their host galaxies by using VLA, constraining radio light curves and obscured star formation in the hosts. We found a time variability in one of the targets. This is the first report of a variability of late-time radio emission in an SLSN, and plausible scenarios are a low-luminosity AGN or a magnetar wind nebulae. We have also conducted molecular line observations of an SLSN host to understand ISM properties of environments producing SLSNe. I will present our radio studies on SLSNe and future prospects.

興味をお持ちの方の聴講を歓迎致します。