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■ Title

Exploring millimeter/submillimeter transients and their environments

■ Summary

Recent multi-wavelength time-domain surveys have revealed new populations of extragalactic transients. On the other hand, in the millimeter/ submillimeter (mm/submm) band, there have been limited transient surveys, and it is pointed out that there is a possibility of the existence of transients that have been missed in the previous observations. In this study, we will search for mm/submm extragalactic transients using ALMA and constrain the number density and properties of mm/submm transients. In addition, we will examine the environments of transients by studying their host galaxies. We will use ALMA archive data, including previously observed transients and host galaxies (e.g., supernovae, gamma-ray bursts, and fast radio bursts), and compare them with theoretical models and simulations to understand the nature and progenitors of transients.