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Abstract:

Fast blue optical transients (FBOTs) are a peculiar class of optical transients with blue colors at peak, and they evolve faster than ordinary supernovae. So far five FBOTs have been identified. It has been suggested that FBOTs may be powered by an extremely magnetized neutron star (i.e., magnetar) produced by core collapse of a massive star or collapse of a massive white dwarf. As both observation and theory have relate fast radio bursts (FRBs) with magnetars, especially young magnetars, it is interesting and important to search for FRBs from the possible newborn magnetars in FBOTs with FAST. The detection of FRBs will help us not only constrain the origin of FBOTs, but also understand the relation between FRBs and magnetars. Even if there is no detection of FRB, the detected radio flux from FBOTs can help reveal the radio emission mechanism and the properties of the dense circumstellar material of FBOTs.