

Discovery of young planet-mass objects in L1495

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We present our discovery of planet-mass objects and candidates in the dark cloud L 1495 in the Taurus star-forming region, observed with CFHT/WIRCam. Our L1495 observation is a part of the W-band survey toward the whole Taurus star-forming region. Our substellar candidates are selected with a customized filter centering at 1.45 μm , which is designed to trace water absorption seen in cool atmospheres of brown dwarfs. The reddening-free color index Q was derived from J, H, [1.45], and WISE photometry to select candidates. The method was pioneered by Allers & Liu (2010) with ULBCAM at the UH88" telescope. Our additional observations on known brown dwarfs and free-floating planets validate the efficiency of Q index as well. In 2017, two candidates have been confirmed their substellar nature by spectroscopic observations with Subaru/IRCS. In future, a complete substellar census in Taurus will be the key to investigate the formation, the early evolution, the mass function, and their atmospheres of substellar objects.