

Discovery of a brown dwarf with quasi-spherical mass-loss

Serendipitous discoveries are often responsible for the identification of rare and extreme objects, which often mean the discovery of new astronomical phenomena. In this talk, I am presenting a unique and unprecedented object with a sphere-like shape ('bubble') traced by ^{12}CO emission and with NO continuum detection. The 'bubble' is associated with the brown dwarf object SSTc2d J163134.1-240060. This object was serendipitously discovered in a large survey of protoplanetary disks in Ophiuchus. Although quasi-spherical mass loss has not been reported in young brown dwarfs, I will discuss why the observed shell could be associated with a thermal pulse produced by the fusion of deuterium, which is not yet well understood, but for a sub-stellar object is expected to occur during a short period of time at an age of a few Myr, in agreement with the ages of the objects in the region. Nevertheless, other more exotic scenarios cannot be ruled out.