Abstract

FU Orionis variables are young stellar objects undergoing a brightness outburst. This outburst is attributed to a phase of high mass accretion in the surrounding disc. Here we investigate the nature of 17 potential FU Ori variables found in near-infrared surveys of massive star forming regions. Their presence can give important information about the age of the star forming regions. The spectral and photometric features of the FU Ori candidates are compared to those of known FU Ori variables. We start by examining the possibility of finding more than one FU Ori object in a single cluster by looking at the population of sources surrounding the candidates. After that we look at the near-infrared spectra of the candidates to find the characteristic CO bandhead absorption. We also find that the spectral types found correspond to those of the known FU Ori sample. By looking at the near-infrared photometric data we can see the intrinsic reddening of these sources. Most sources are not seen on optical images, indicating excessive extinction. Furthermore, near-infrared images tell us that there are no reflection nebulae seen around the candidates. We find that almost all the candidates share most of their characteristics with those of the sample of known FU Ori variables. Therefore, we classify these candidates as FU Ori-like objects, pending further investigation. One candidate is classified a supergiant on the basis of its near-infrared colors. Two further candidates are classified as giants, also with the help of near-infrared colors and magnitudes.