

# Sub-mm flux variability in Planck cold clumps

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The accretion variability is important to understand the evolution of the protostellar system. At the early stages, most of emission by the accretion energy appears in far-IR through sub-mm wavelengths by reprocessing through the protostellar envelope. We investigated sub-mm flux variability in thirteen regions of Planck cold clumps using the JCMT SCOPE survey data. The thirteen fields were observed at three times over about one year. The investigation of flux variability using only three epoch observations is challenging but worthwhile. We found some clumps show relatively large flux changes of  $\sim 10\%$ , although we cannot completely rule out the statistical possibilities. Comparing with IR images and point source catalogs, we found that some of them are indeed likely to be associated with young stellar objects. We describe data analysis methods and discuss our results.

*Cores and embedded objects*