

Research in Astrophysics from Space (E)

The Transient X-Gamma-ray Sky: Recent Results and Future Directions (E16)

## **YOUNG STELLAR OBJECTS AS POSSIBLE COUNTERPARTS OF FERMI SOURCES**

Pere Munar Adrover, pmunar@am.ub.es

Universitat de Barcelona, Barcelona, Spain

Marc Ribó, mribo@am.ub.es

Universitat de Barcelona, Barcelona, Spain

Josep M. Paredes, jmparedes@ub.edu

Universitat de Barcelona, Barcelona, Spain

Gustavo Esteban Romero, romero@fcaglp.unlp.edu.ar

Instituto Argentino de Radioastronomía , Villa Elisa, Argentina

Massive protostars have associated bipolar outflows which can produce strong shocks when interact with the surrounding medium. In these conditions particle acceleration up to relativistic velocities can occur leading to gamma-ray emission in subsequent interactions with ambient material, as some theoretical models predict. To identify young stellar objects (YSO) that may emit gamma rays we have crossed the Fermi First Year Catalog with some catalogs of known YSOs, and we have conducted Montecarlo simulations to find the probability of chance coincidence. We present a list of YSOs spatially coincident with Fermi sources and discuss which of these YSOs are better candidates than other sources in the field.