

Service d'Astrophysique
SÉMINAIRE

Jeudi 26 juin 11h00

CEA Saclay, Orme des Merisiers Bât 709, p 220

**STAR CLUSTER EVOLUTION : FROM YOUNG
MASSIVE STAR CLUSTERS TO OLD GLOBULARS**

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I will review the long-term survival chances of young massive star clusters (YMCs), hallmarks of intense starburst episodes often associated with violent galaxy interactions. I will address the key question as to whether at least some of these YMCs can be considered proto-globular clusters (GCs), in which case these would be expected to evolve into counterparts of the ubiquitous old GCs believed to be among the oldest galactic building blocks. In the absence of significant external perturbations, the key factor determining a cluster's long-term survival chances is the shape of its stellar initial mass function (IMF). It is, however, not straightforward to assess the IMF shape in unresolved extragalactic YMCs. I will discuss in detail the promise of using high-resolution spectroscopy to make progress towards this goal, as well as the numerous pitfalls associated with this approach. I will also discuss the latest progress in worldwide efforts to better understand the evolution of entire cluster systems, the disruption processes they are affected by, and whether we can use recently gained insights to determine the nature of at least some of the YMCs observed in extragalactic starbursts as proto-GCs. I conclude that there is an increasing body of evidence that GC formation appears to be continuing until today; their long-term evolution crucially depends on their environmental conditions, however.

Le cafe sera servi 10 minutes avant

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