



## SEMINAIRE régulier du Service d'Astrophysique

### EXTREMELY MASSIVE YOUNG STELLAR CLUSTER

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(SAp)

Jeudi 18 Septembre 2008

11h00

At the inner Lindblad resonance in the barred spiral active galaxy NGC1365, we have discovered a number of new sources, compact and bright, which popup at mid-infrared and radio wavelengths, while they are invisible in the optical and near-infrared. Imaging and spectroscopy in the mid-infrared have been collected at the VLT with VISIR, and are used to unveil the nature of such sources. Using several age indicators (nebular emission lines, CO absorption bands in the near-infrared and radio spectral indices) and two modelling tools (STARBURST+CLOUDY and GRASIL), we find that these sources correspond to star clusters at an age of about 7 Myrs, extremely massive,  $10^7$  Mo, and still embedded in their parent molecular material (large extinction values).

This poses a number of key-questions which will be discussed: How did they form and how can they be so massive? How is it that, at this age, they are still embedded in cold material? What is their formation time and is the star formation burst-like or a steady-state? What is their life-time?



Un café sera servi 15 minutes avant le séminaire

**Ce séminaire aura lieu au CEA Saclay – Orme des Merisiers –bâtiment 709, Salle 220.**