



# Groupe d'Astrophysique des Hautes Energies (GAPHE)

## CU06 *GAIA* data processing

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## The GAPHE and its research activities

- Currently (2006) the GAPHE consists of 2 senior scientists, 3 (to 1) post-docs and 2 PhD students mainly working on high-energy data
- High-energy astrophysics, variability, O and Wolf-Rayet stars, massive binaries, colliding wind binaries, non-thermal phenomena
- + 1 post-doc in 2007 (GAIA)

## Contribution to CU06: GWP-S-650-12000

- Measurement of RVs in composite spectra using **TODCOR** like method
- Restriction: double stars or not ?
- 2-D correlation:

template (s1, s2) = temp1(s1) +  $\alpha$  x temp2(s2)  
 $\alpha$  fixed by additional info or optimized

$R(s1, s2) = f( CC\ sp-t1, CC\ sp-t2, CC\ t1-t2 )$   
3 times 1-D correlation

### Open questions:

- What is triggering this routine ?  
recognition of binarity  
(GWP-S-650-07000 et seq ?)
- The choice of the first template : not a single star.
- The choice of the second template : no information on secondary object.
- More sophisticated method ?