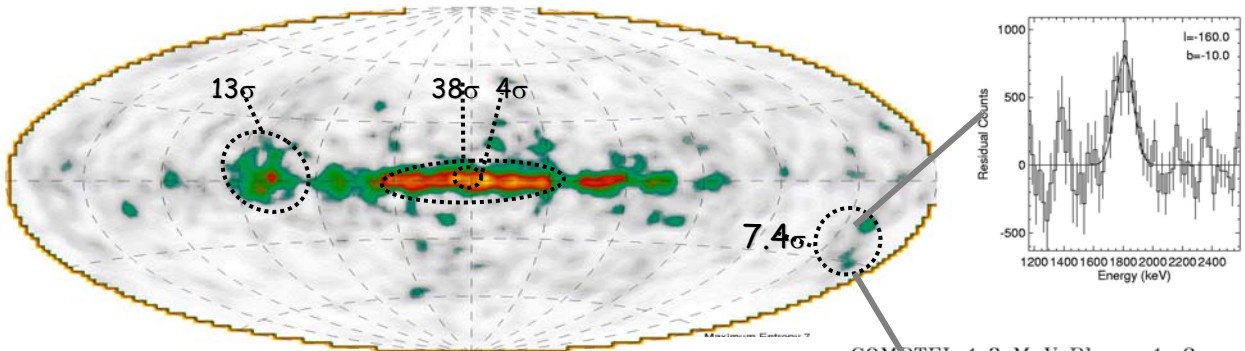
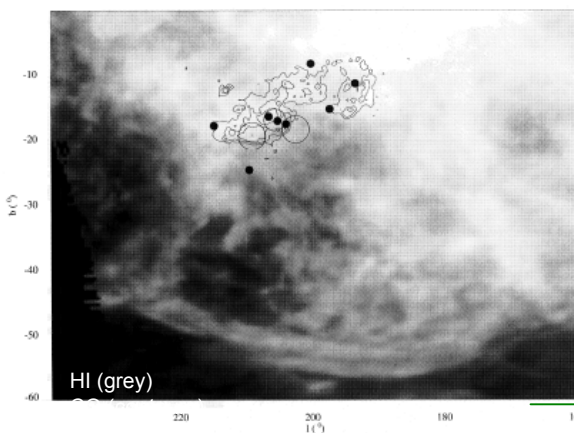
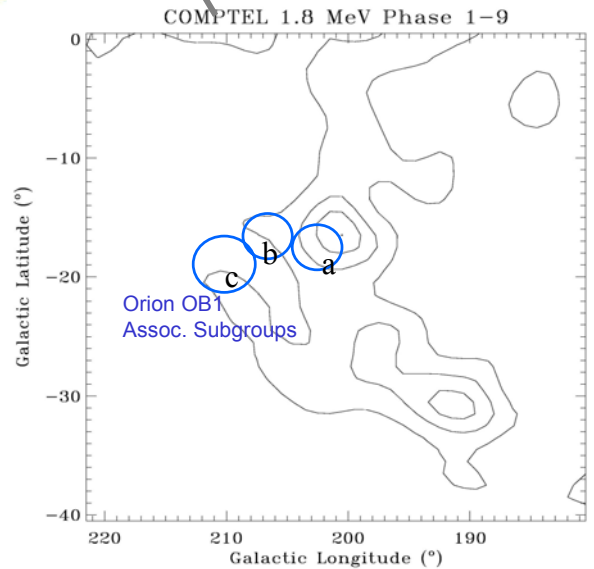


Massive stars of the Orion Region have created the Eridanus Cavity, and have ejected fresh nucleosynthesis products into their surroundings. Gamma-rays from radioactive  $^{26}\text{Al}$  can be used to study how massive stars interact with their surroundings over millions of years.

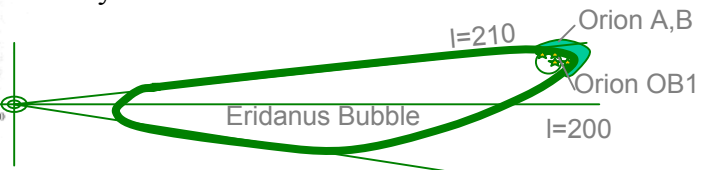


The COMPTEL sky survey of gamma-rays from radioactive  $^{26}\text{Al}$  (decay time 1.04 My) had indicated extended emission towards the Orion region. At  $\sim 7\sigma$  significance, mapping this emission in detail is difficult. Still, the apparent offset of the observed feature was puzzling.

With the discovery and mapping (in HI and X-rays) of the Eridanus cavity, this offset appears plausible to reflect the streaming of massive-star ejecta into their surroundings: The Eridanus cavity extends away from the dense clouds Orion A,B towards the Sun and southward of the Galactic plane



Massive stars of the Orion OB1 association come in 3 age groups (a,b,c); the oldest group ( $\sim 12$  Myr) may have been responsible for forming the cavity structure, while group c ( $\sim 4$  Myr) may be responsible for producing the currently-observable radioactive  $^{26}\text{Al}$ , and subgroup b is too young to have ejected  $^{26}\text{Al}$  yet.



## References:

- Diehl R., M. Cerviño, D. H. Hartmann, K. Kretschmer: New Astr. Reviews 48, 1-4, 81 (2004)
- Diehl R., Kretschmer K., Plüschke S., Cervino M., Hartmann D.H.: IAU 212, 706 (2003)
- Diehl R.: New Astr. Reviews 46, 8-10, 547 (2002)