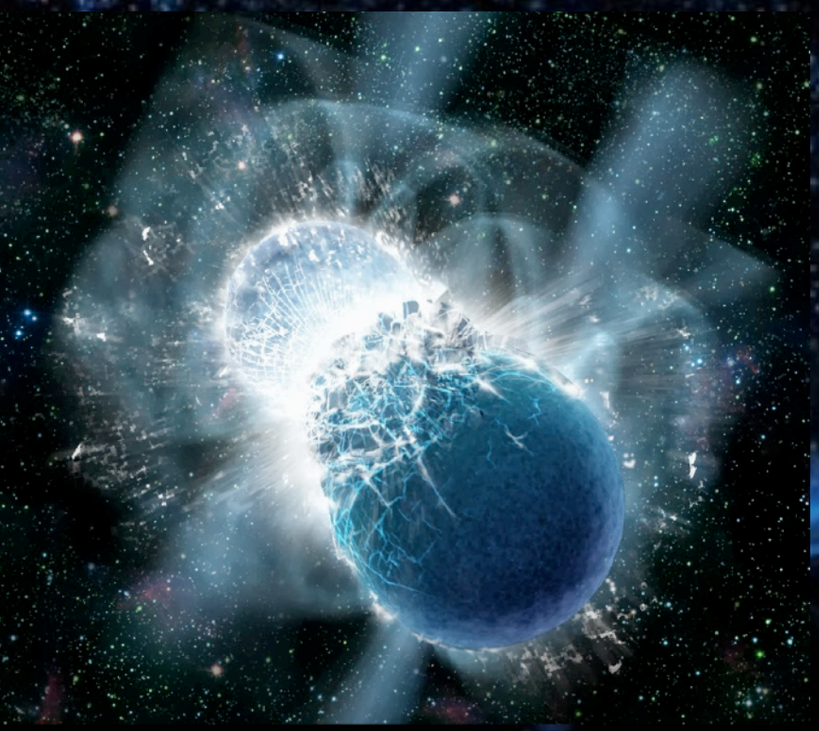
Archeologia Galattica

ed

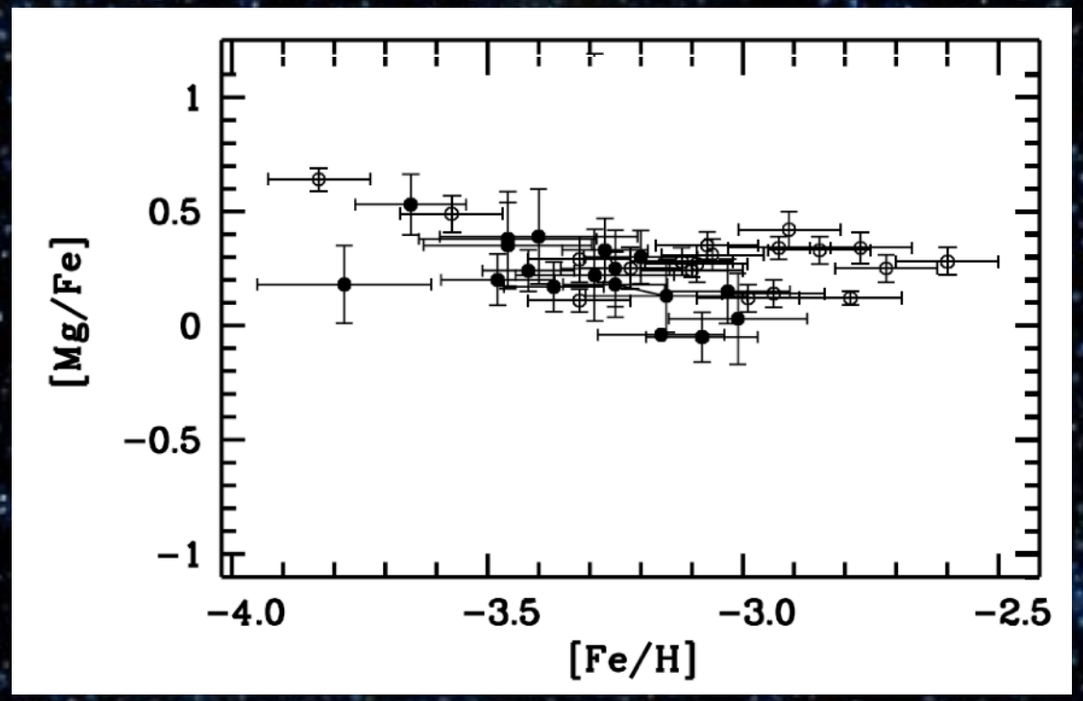
i mergers di stelle di neutroni



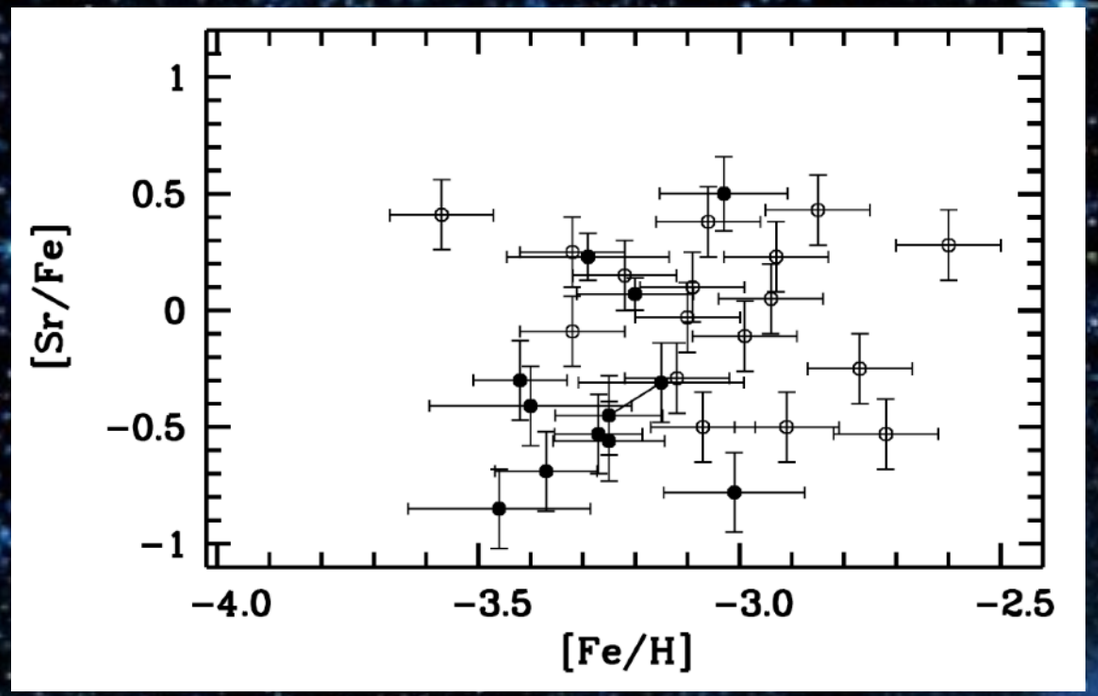
Gabriele Cescutti

Stelle dell'alone Galattico (età>10Gyr)

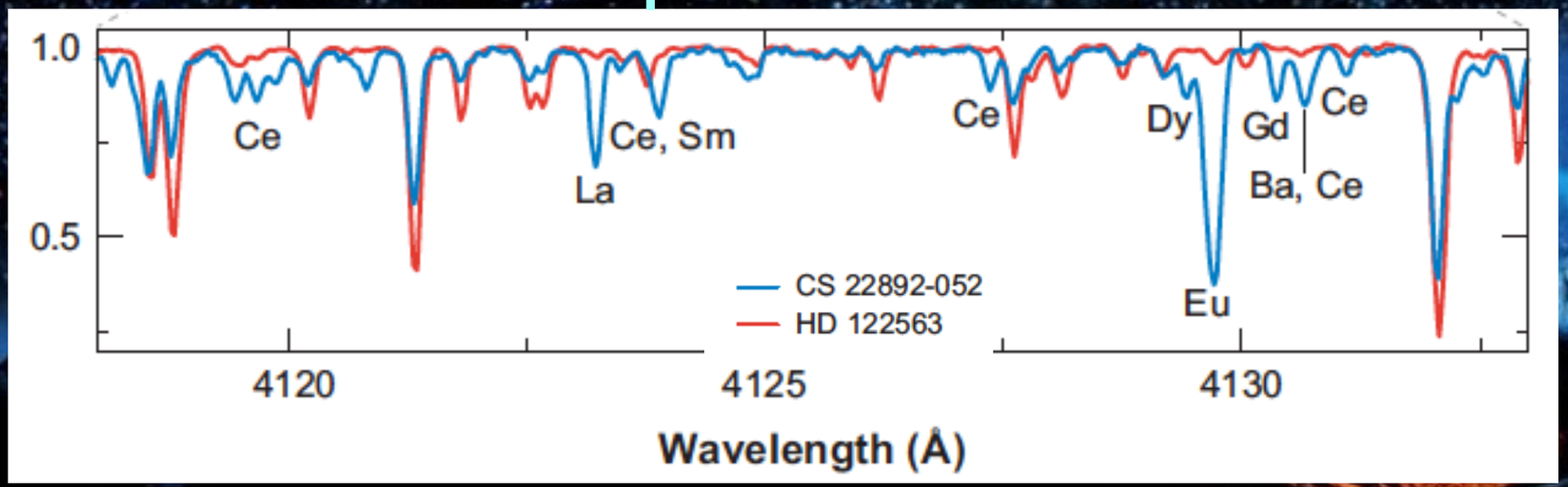
Elementi prodotti da catture alfa



elementi pesanti



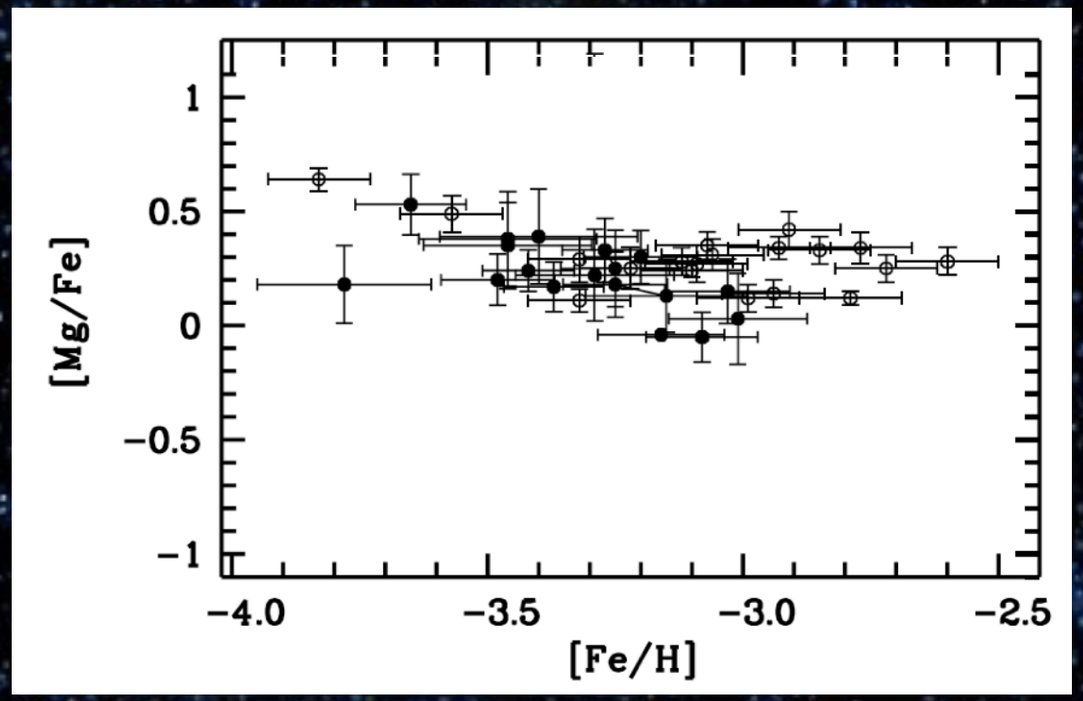
Non è un problema osservativo!



Stelle dell'alone Galattico (età>10Gyr)

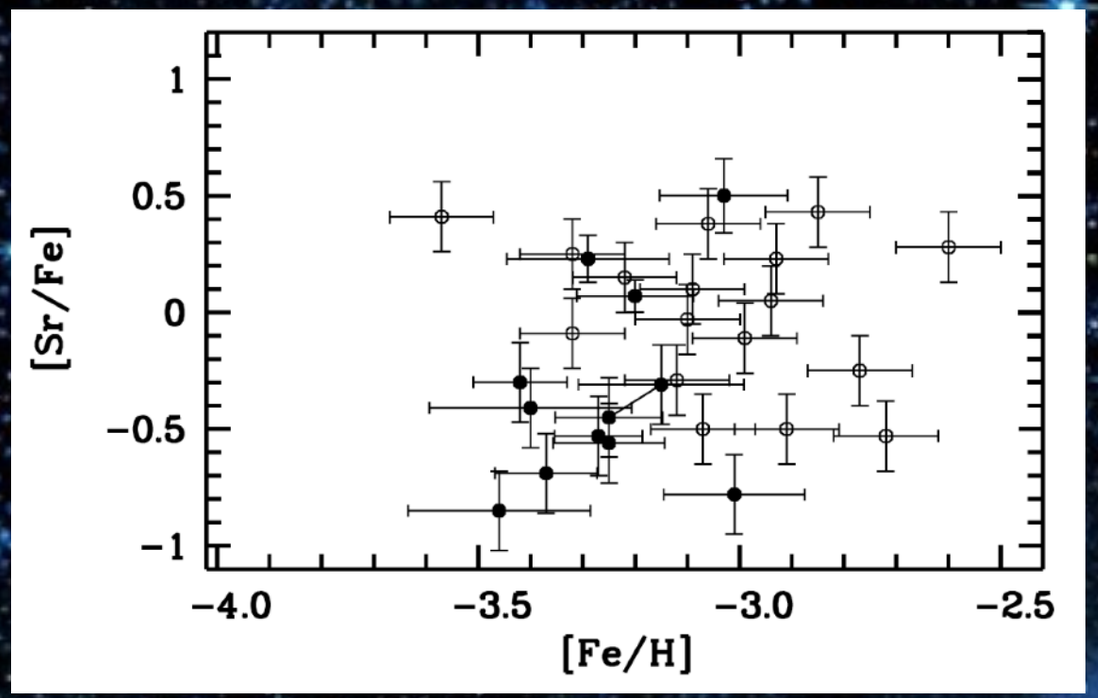
Elementi prodotti da catture alfa

—>tutte le stelle massicce (SNeII)

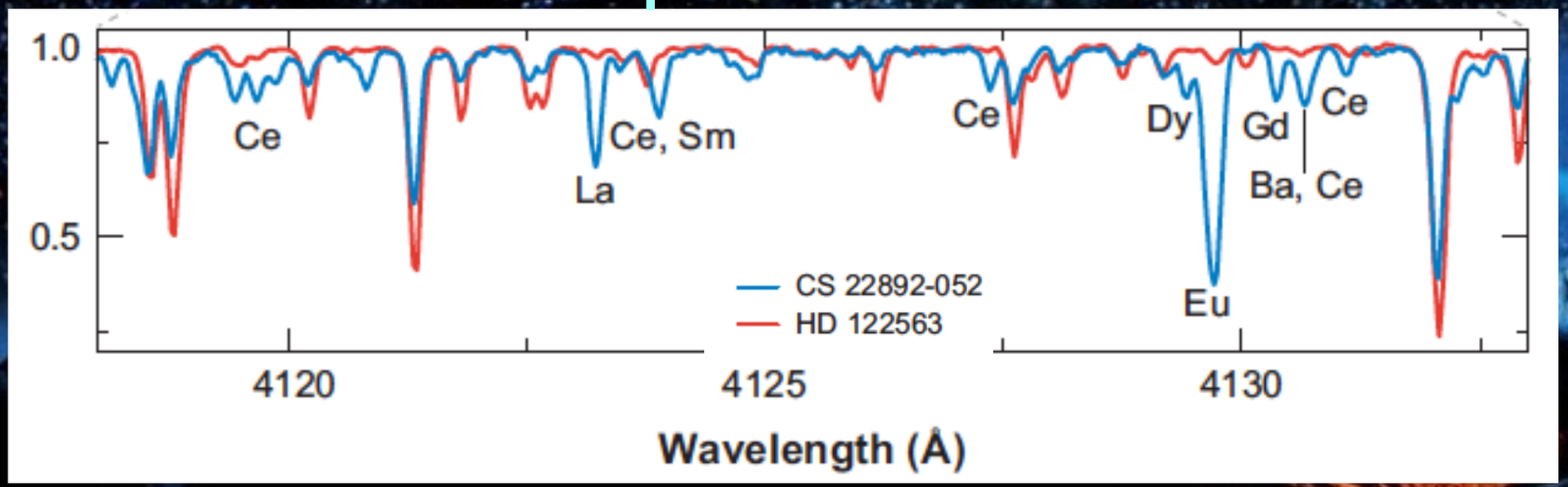


elementi pesanti

—> qualche evento raro?

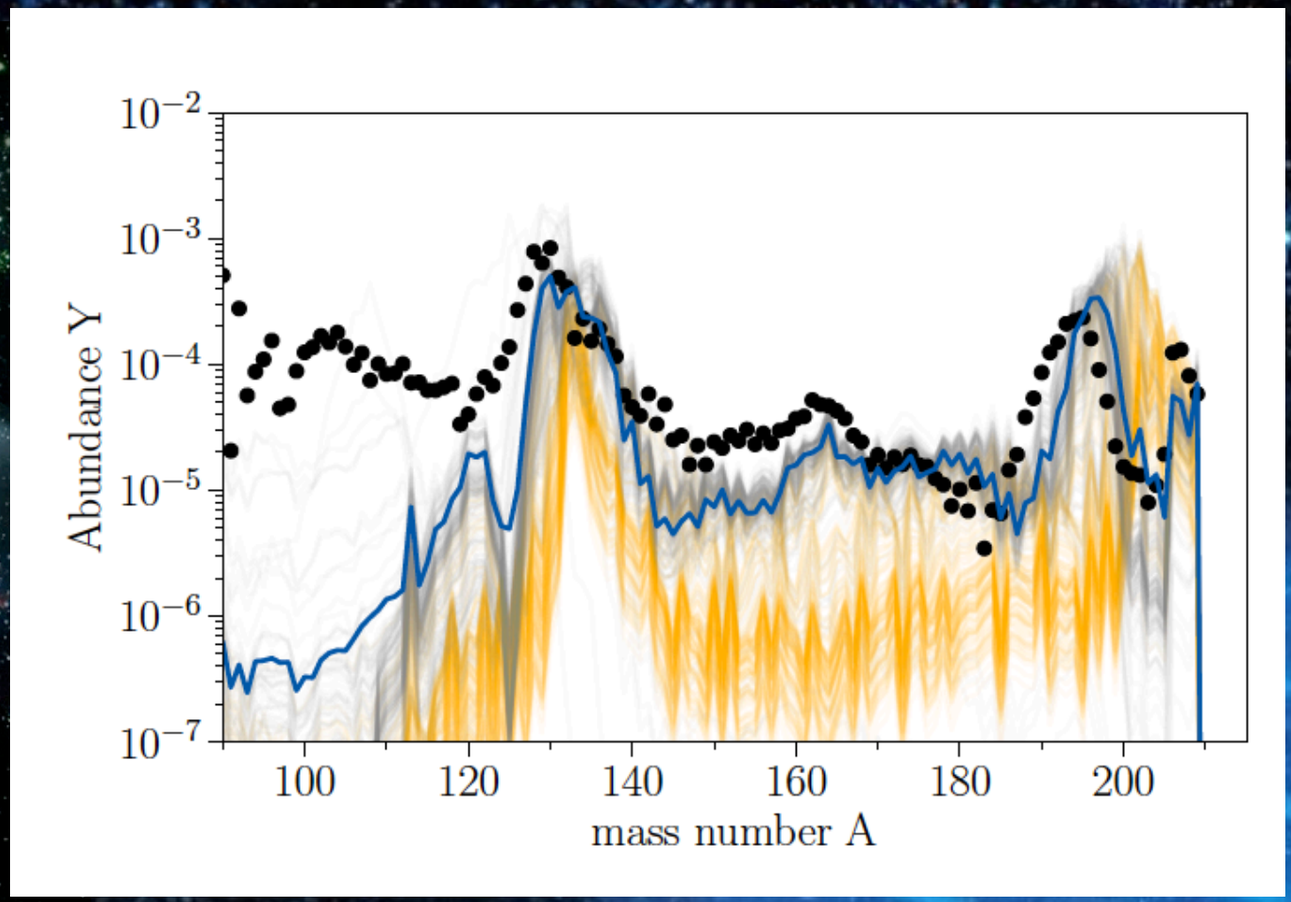


Non è un problema osservativo!

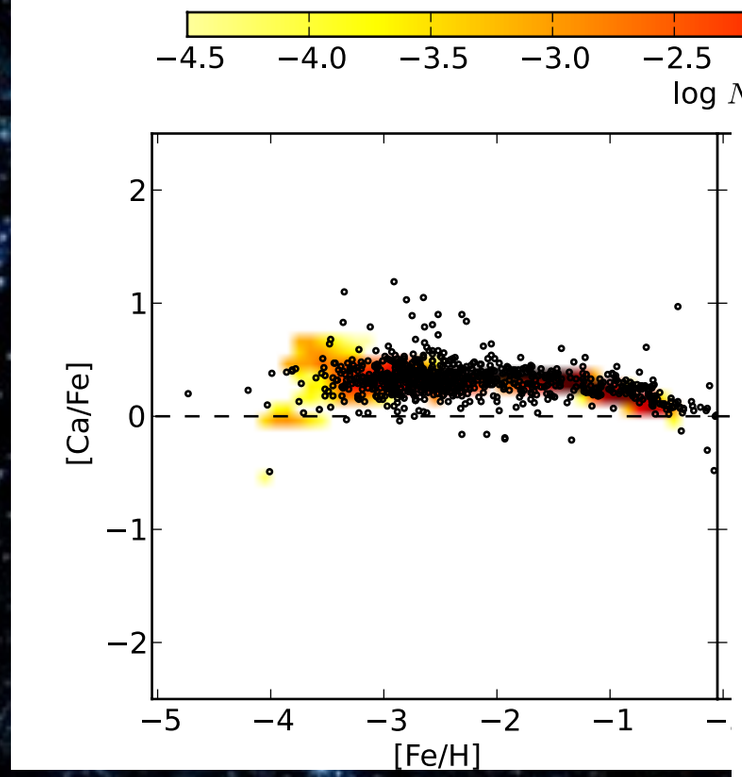


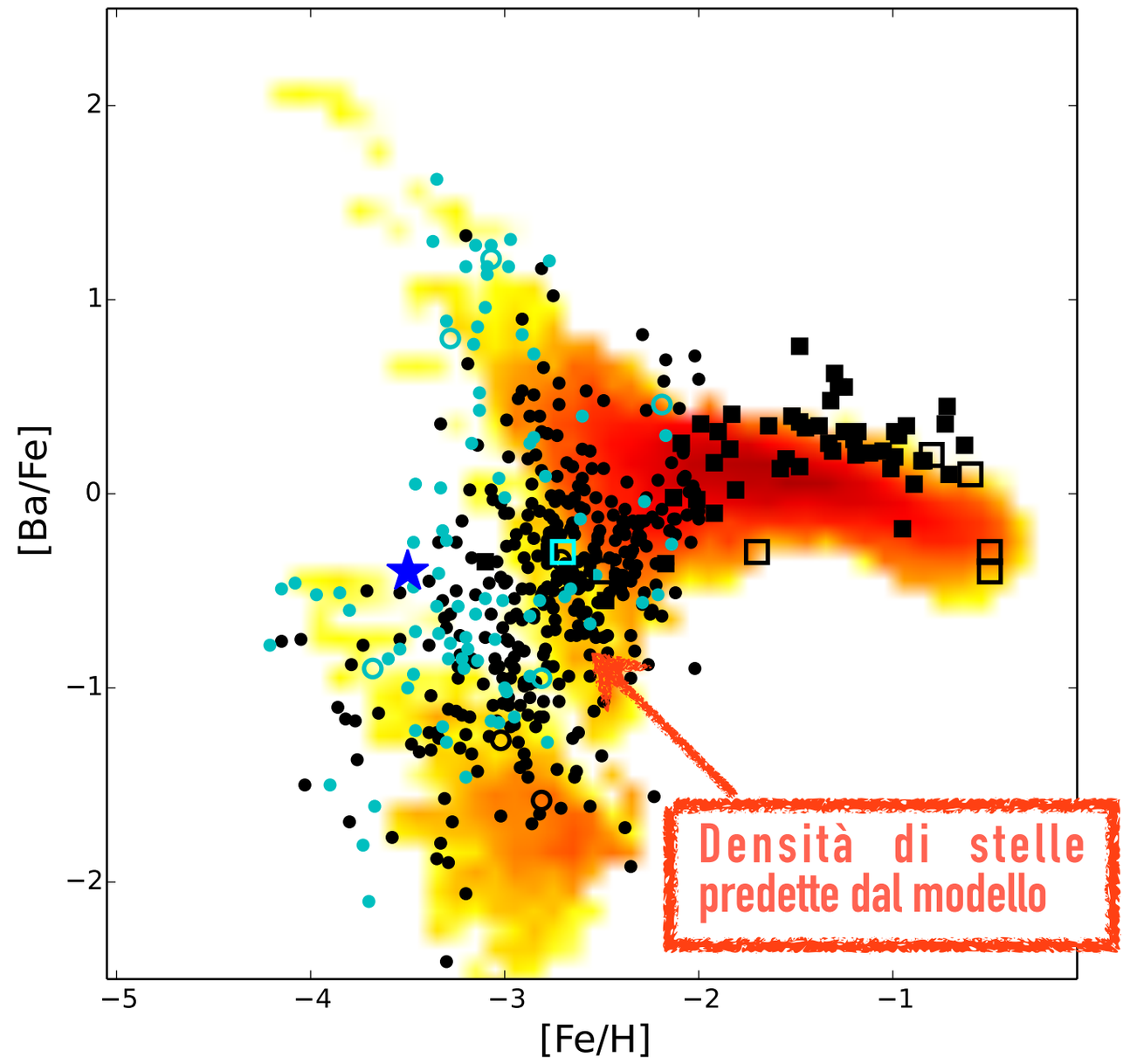
Mergers di stelle di neutroni

Sono oggetti rati, <10% delle stelle massicce esplode come neutron star merger

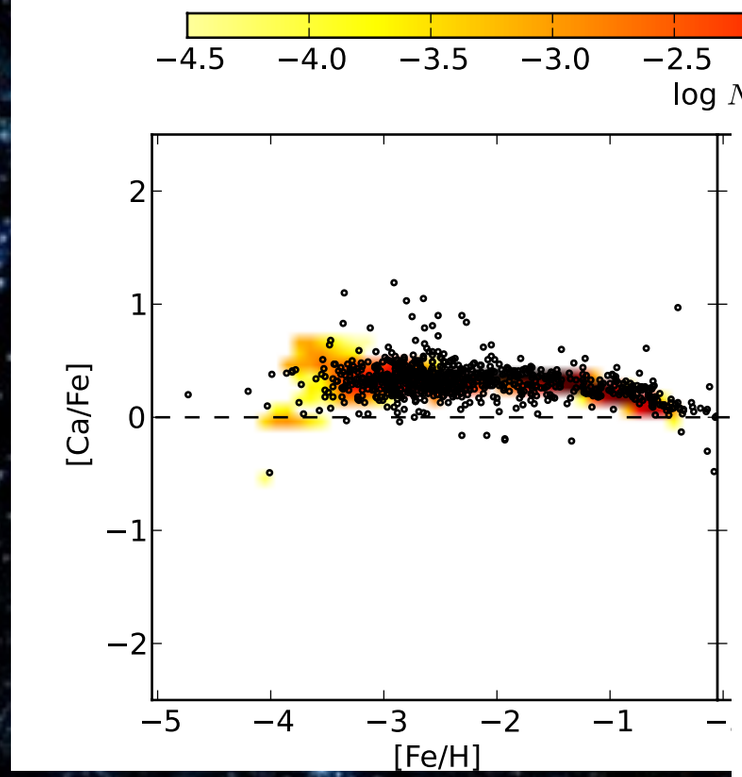


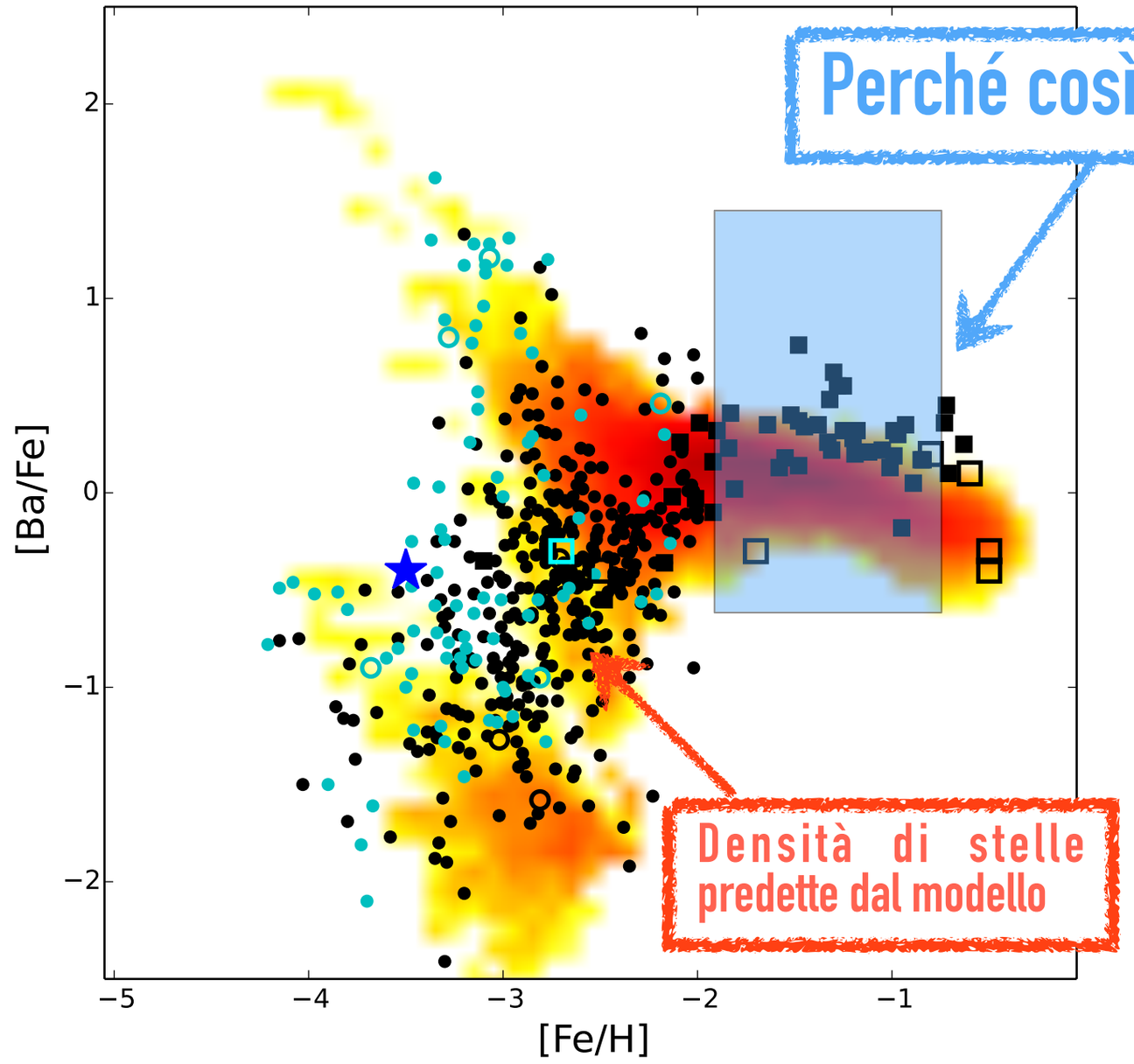
Modello stocastico di evoluzione chimica



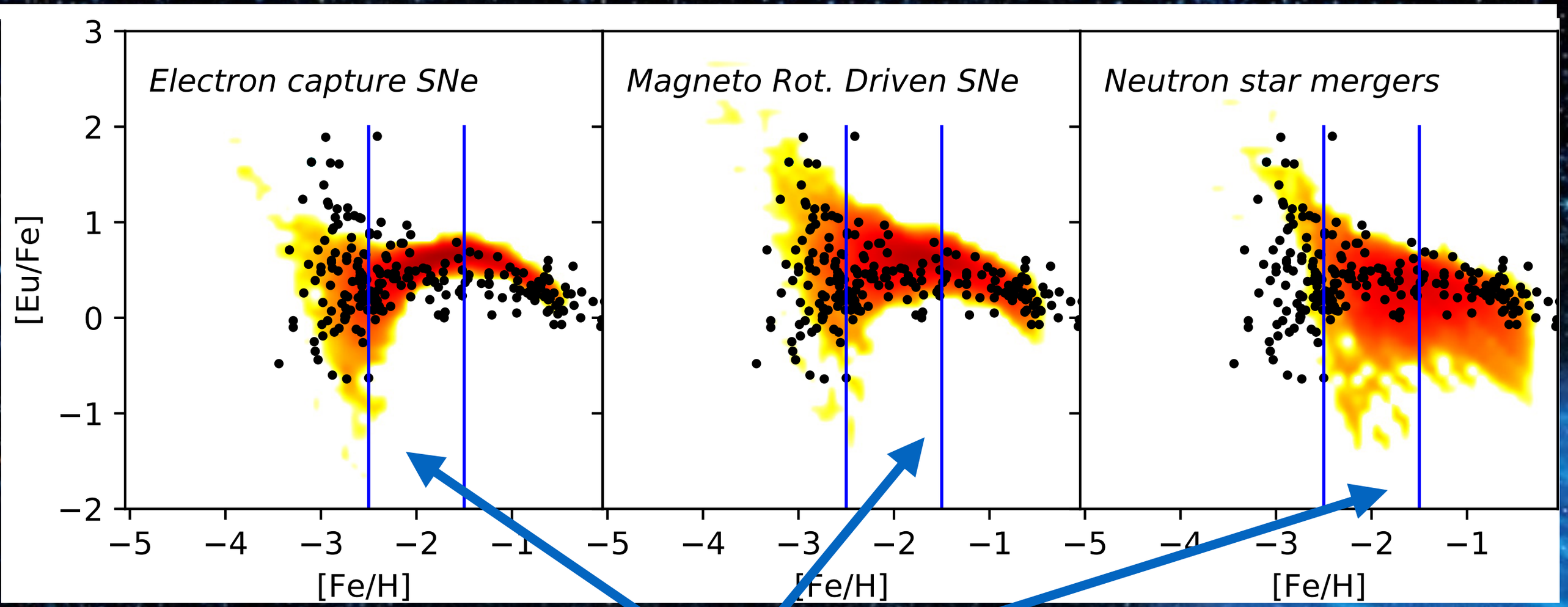


Modello stocastico di evoluzione chimica



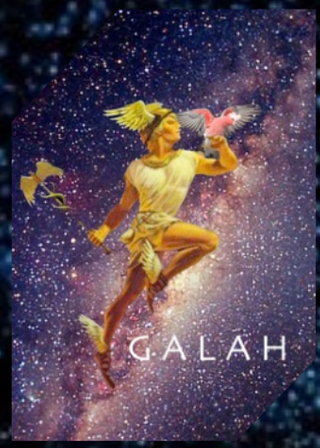


Mergers di stelle di neutroni o altre oggetti rari?



E' una zona chiave da investigare!

Era delle grandi surveys...
avremmo presto delle risposte

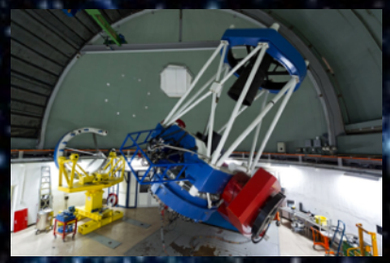


Nel frattempo però

MINCE Survey

Measuring at Intermediate Metallicity Neutron Capture Elements

9 telescopi



Alta risoluzione >50'000
alto S/N >70
>400 stelle (in 2.5anni)
~ 50notti

PI Cescutti

P. Bonifacio, C. Hansen, M. Franchini, E. Caffau, E. Spitoni, A. Kučinskas,E. Kolomiecas, L.Lombardo, A. Mucciarelli, P. Di Marcantonio, V. S. Cristallo, P. Molaro, F. Matteucci, D. Carollo, M. Valentini, J. Klevas, M. F. Andersen, M. Hanke, A.M. Matas Pinto, L. Monaco,, Dobrovolskas, P. François, M. Spite, F. Spite, L. Sbrodone,