Università degli Studi di Trieste

Dipartimento di Fisica

Alumnorum Colloquia

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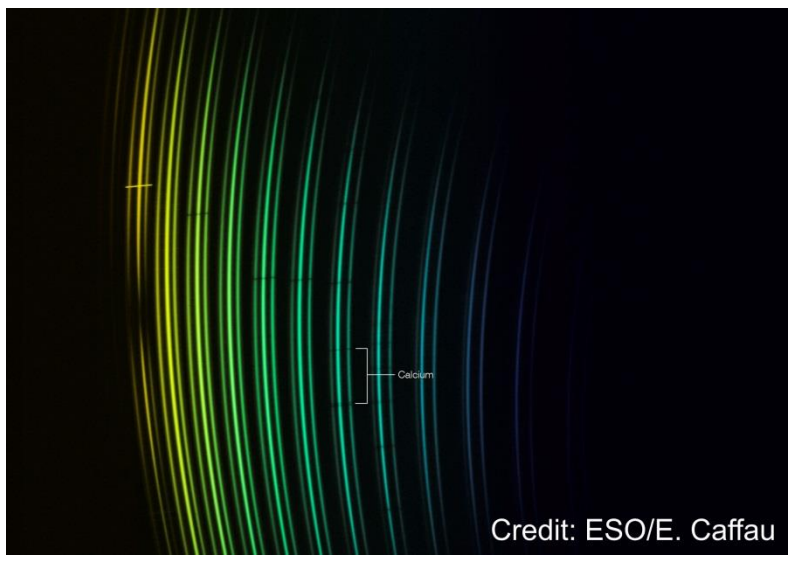
Observatoire de Paris, CNRS, Univ. Paris-Diderot

April 29, 4.30 PM - Lecture room A, F building, Physics Dept. - via Valerio, 2 – Trieste

Searching for the First Stars: the TOPoS project

As the Universe emerged from the Big Bang its chemical composition was extremely simple: Hydrogen, Helium and traces of Lithium. All the heavier elements, the ones that living beings are made out of, Carbon, Oxygen, Magnesium, Iron....were synthesized at later times, mainly (99.9%) by stars. At some point, a few hundred million years after the Big Bang, the Universe must have begun to form stars, the "First Stars". These stars are very important to understand the subsequent evolution of the Universe. They generated UV photons that re-ionized the neutral hydrogen, making the Universe "transparent", and they produced the first heavier elements, that made easier the formation of subsequent generations of stars and triggered the chemical evolution of the galaxies.



To date we have not found a single primordial star, i.e. totally devoid of any element heavier than Li. Perhaps because all the First Stars were very massive and short-lived, perhaps because we have not searched well enough. I will describe the work of the TOPoS Team, an international project assembling scientists in French, Italian and German laboratories that has so far led to the discovery of the star with the lowest content of heavy elements: 10^{-5} what observed in the Sun.

Organizzazione a cura di: M. Girardi, E. Gozzi, G. Pastore, R. Rui, E. Vesselli

Everyone interested in the topic is welcome to attend

Informazioni: seminari@ts.infn.it