New abundances from very old stars

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Metal-poor stars hold the fossil record of the Galactic chemical evolution and nucleosynthesis processes that took place at the earliest times in the history of our Galaxy. From detailed abundance studies of low mass, extremely metal-poor stars ([Fe/H] < -3), we can trace and help constrain the formation processes which created the first heavy elements in our Galaxy. I will present the results of a ~20-star homogeneously analysed sample of metal-poor candidates from the Hamburg/ESO survey. We have derived abundances for a large number of elements ranging from Li to Ba, covering production processes from hydrostatic burning to neutron-capture. The sample includes some of the most metal-poor stars ([Fe/H] < -4) studied to date, containing neutron-capture elements, and also a number of stars enhanced in carbon. The so called CEMP (carbon enhanced metal-poor) stars these stars make up ~20% of the stars with [Fe/H] < -3, and 80% of the stars with [Fe/H] < -4.5. The progenitors of CEMP stars is still no fully constrained. They could be a result of binary mass transfer or exotic events in the early Universe.