

# CEMP Stars as Probes of First-Star Nucleosynthesis, the IMF, and Galactic Assembly



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## SALT CEMP Stars Survey

CEMP stars have increasingly been shown to be important for understanding Pop III stars, early chemical enrichment, and many neutron capture nucleosynthetic processes. However, currently there are only approximately 150 CEMP stars that have been studied in high resolution. While this number is sufficient for statistic of a single population of stars, CEMP stars exist in many varied subgroups of which larger samples are needed to produce reliable statistics. In this survey we have observed 200 stars CEMP stars. The stars were observed using the high resolution spectrograph on the South African Large Telescope (SALT) with a resolution of 40,000 and a signal to noise ranging from 30-50. I will present the results of this survey and discuss their implications for the first stars, chemical evolution, and the r, s, and i-processes.

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