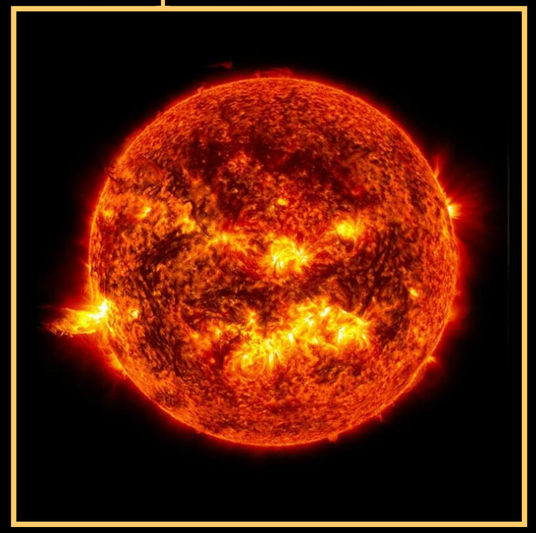
Paper: Enrichment by extragalactic first stars in the Large Magellanic Cloud (Chiti et al. 2024)

Detection of Low-Metallicity Stars Sheds Light on Elemental Composition, Star Formation, and Nucleosynthesis in the Early Universe

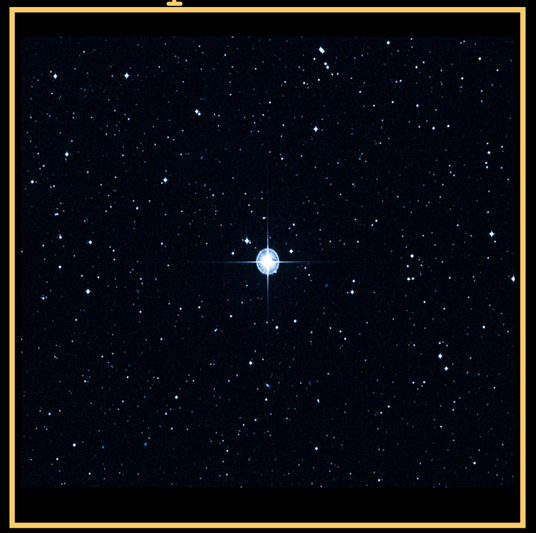
Sarah
Silverman

DIFFERENT TYPES OF STARS

Population I



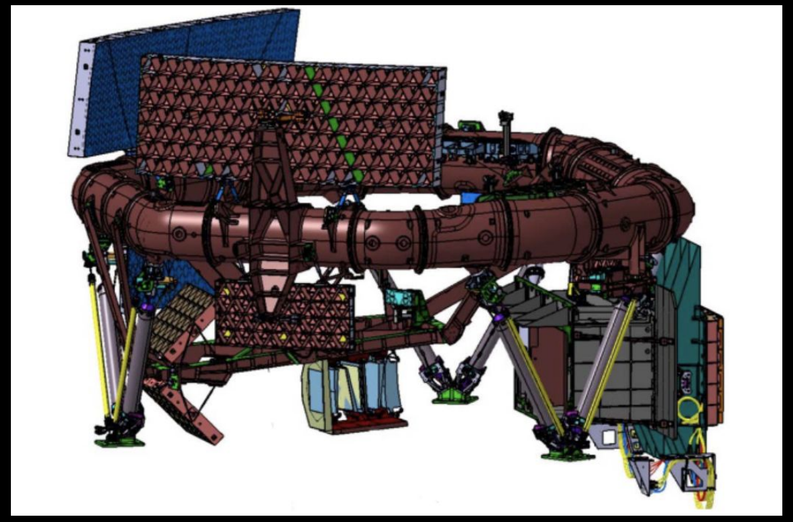
Population II

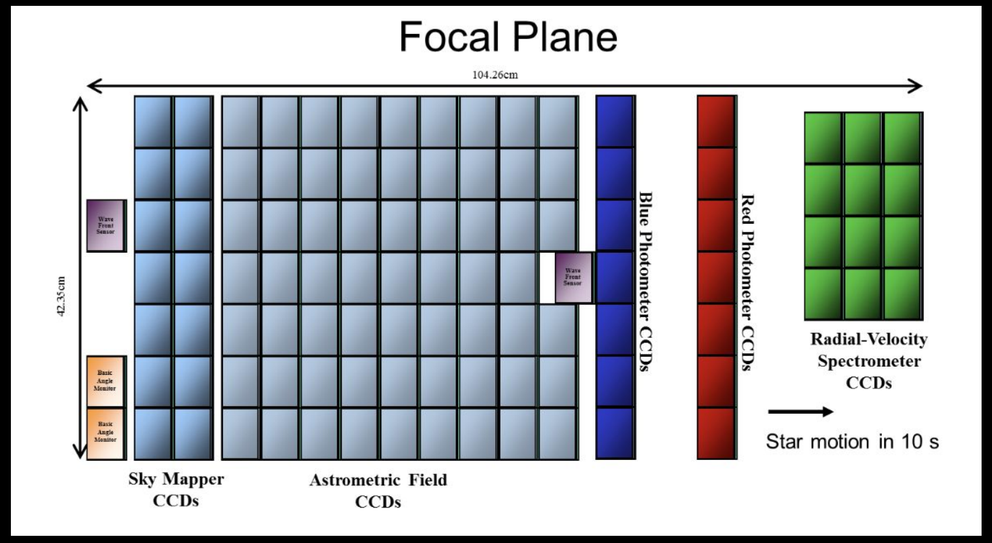


Population III

Detection

Gaia





Magellan-Clay Telescope (MIKE spectrograph)

The Search for the Second Generation

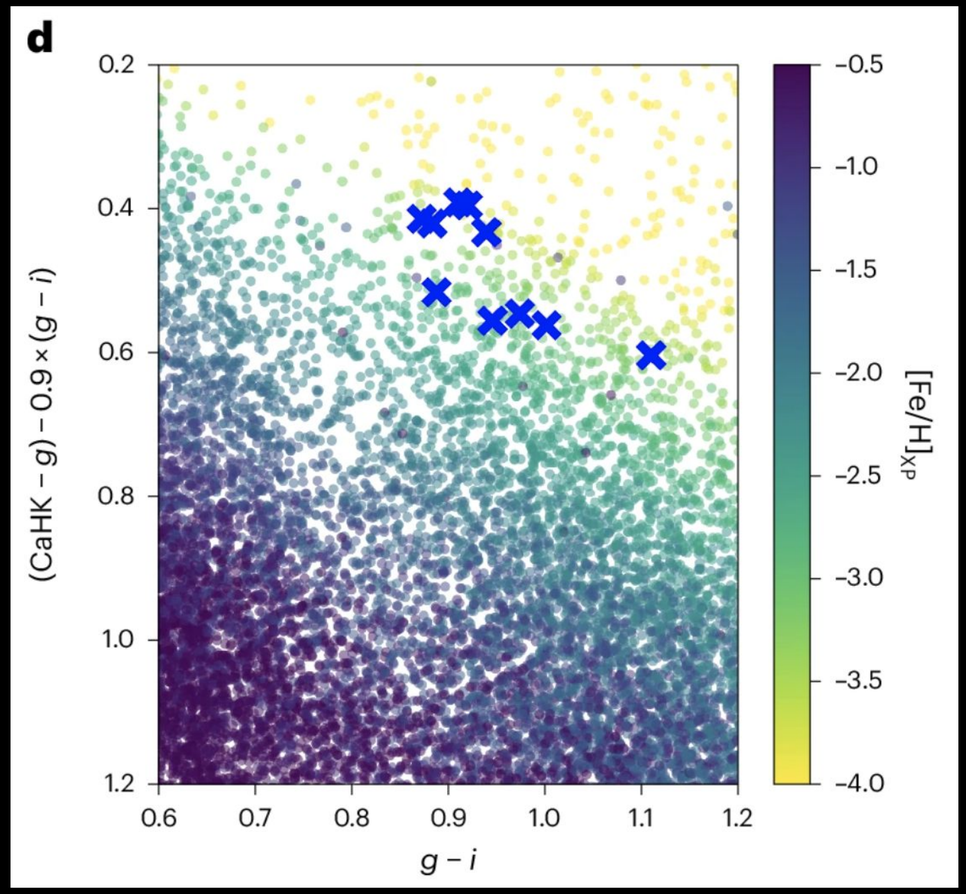


Table 1 Stars in the LMC observed with the high-resolution Magellan/MIKE spectrograph for detailed element abundance analysis in this work

From: Enrichment by extragalactic first stars in the Large Magellanic Cloud

Name	Right ascension	Declination	g	T_{eff} (K)	log(g)	v_{mic} (km s^{-1})	[Fe/H]
LMC 003	04:53:37.090	−64:43:57.55	17.05	4,540 ± 158	0.80 ± 0.33	2.90 ± 0.28	−2.97 ± 0.20
LMC 100	04:33:47.361	−67:37:31.51	17.36	4,612 ± 162	1.10 ± 0.32	2.63 ± 0.29	−2.67 ± 0.22
LMC 104	05:18:01.352	−63:22:26.56	16.50	4,531 ± 155	1.05 ± 0.31	2.89 ± 0.28	−2.56 ± 0.21
LMC 109	04:12:01.964	−66:00:58.36	17.01	4,504 ± 155	1.10 ± 0.31	2.58 ± 0.28	−2.85 ± 0.20
LMC 119	05:51:51.026	−63:56:37.60	16.85	4,315 ± 207	0.80 ± 0.33	2.66 ± 0.28	−4.15 ± 0.20
LMC 124	06:08:14.982	−62:07:23.33	16.76	4,531 ± 160	1.10 ± 0.32	2.78 ± 0.29	−2.97 ± 0.21
LMC 204	04:33:20.143	−68:02:41.87	17.30	4,594 ± 173	0.95 ± 0.36	3.02 ± 0.34	−2.83 ± 0.27
LMC 206	05:45:46.652	−65:46:35.40	17.08	4,720 ± 170	1.65 ± 0.34	2.56 ± 0.31	−2.56 ± 0.24
LMC 207	05:32:54.917	−64:53:09.88	17.10	4,486 ± 172	0.80 ± 0.30	2.57 ± 0.32	−3.34 ± 0.25
LMC 215	05:56:37.323	−66:05:17.85	17.16	4,567 ± 157	0.75 ± 0.35	2.50 ± 0.27	−3.09 ± 0.17

Other Sources Consulted

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