

α -ELEMENTS IN BULGE STARS: ARP 1145, TERZAN 1-2

B.BARBUY¹, S.ORTOLANI², A.RENZINI³, E.BICA⁴, S.CASTRO¹

¹ *Universidade de São Paulo, Brazil*

² *Università di Padova, Italy*

³ *Università degli Studi di Bologna, Italy*

⁴ *Universidade Federal do Rio Grande do Sul, Brazil*

1. Introduction

The Caspec échelle spectrograph at the ESO 3.6m telescope was used to obtain high resolution spectra for Arp 1145, and the star 2 of the metal-rich cluster Terzan 1. Arp 1145 was selected from Pickles & van der Kruit (1990). The star Tz1-2 was selected from Terzan 1 BVRI photometry carried out by Ortolani, Bica & Barbuy (1993) New HST CMDs show that Terzan 1 appears to be located nearby the Galactic center.

Arp 1145: Through a detailed analysis, the stellar parameters effective temperature $T_{\text{eff}} = 4750$ K, gravity $\log g = 1.2$ and metallicity $[M/H] = -0.9$ were obtained. The $[OI]\lambda 636.3$ nm gives $[O/Fe] = +0.45$. Other elements: $[Ca/Fe] = +0.2$, $[Ti/Fe] = +0.6$.

Terzan 1 - 2: Tz1-2 is among the brightest stars of Terzan 1, but still it is very faint: $V = 18.6$, $I = 13.64$. We could only observe it because in the $\lambda\lambda 620-700$ nm the star is far brighter than in V, and the CCD shows its maximum sensitivity. We recall that $E(B-V) = 1.67$ for Terzan 1. Even so, the spectrum is quite noisy. Adopting very preliminarily $T_{\text{eff}} = 4500$, $\log g = 0.75$, $[M/H] = 0.0$, we get $[O/Fe] = +0.1$. Using the $[O]\lambda 630.031$ and its nearby line $ScII\lambda 630.07$ nm line, $[O/Sc] = +0.4$.

Arp, H.: 1965, ApJ, 141, 43

Ortolani, S., Bica, E., Barbuy, B.: 1993, A&A, 267, 66 Pickles, A., van der Kruit, P.: 1990, A&AS, 84, 421