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ASTROLABE 45° ZENITH DISTANCE OBSERVATIONS OF αSCO A

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RESUMO: Neste trabalho é apresentada a ascensão reta, de Alpha Scorpii (Antares), observada a 45° de distância zenital, com o astrolábio de Valinhos. Este resultado mostra um ótimo acordo com valores já publicados desta rádio-estrela.

ABSTRACT. The optical right ascension position of Alpha Scorpii (Antares), computed from the astrolabe 45° zenith distance observations made at Valinhos, is presented. The result is in fair agreement with previously published optical and radio observations of this radio-star.

Key words: ASTROMETRY

I. INTRODUCTION

In order to contribute to the linkage between an almost inertial reference frame based on the position of extragalactic compact radio sources and the present optical Fundamental Reference System (FK5), an astrolabe observing program of radio stars was undertaken at Valinhos ($\phi = -23^{o}$, $\lambda = 3^{h}\ 06^{m}$ W), in two zenith distances. Previous results of the program, including Alpha Scorpii, have been published elsewhere (Clauzet et al. 1985, 1986, 1988, 1989).

The present data of Alpha Scorpii were computed from the 45° zenith distance observations related to the Third Astrolabe Catalogue at Valinhos (VL3) (Clauzet, 1989). The method of computation of the position of the radio star is classic and can be found in Débarbat and Guinot (1970).

The result is compared with those obtained in radio wavelengths with the Very Large Array (VLA) (Florkowski et al. 1985) of NRAO and in the optical region with the astrolabes at Valinhos (Clauzet et al. 1985, 1986) and Santiago (Noel, 1987) and with the photoelectric meridian circles at Bordeaux (AMC) (Requième, 1989) and Tokyo (PMC) (Yoshizawa et al. 1987).

II. RESULTS

The values displayed in the table are referred to 1983, mean epoch of the radio observations with VLA, in the IAU 1976 System of Constants and in the equinox J 2000. The value of Valinhos 30° is corrected for a photocenter effect which is explained in tlauzet et al. (1986). The values of Santiago correspond to two separate campaigns and can be found in Noel (1987). The data of Valinhos 30, Santiago and VLA were transformed to the new system by means of the methods proposed by Aoki et al. (1983) and Chollet (1984). Only the data of AMC is in the FK5 system. All the others are in the FK4 J 2000 system. The reduction to a common date was accomplished with the respectives proper motions.

ALPHA SCORPII A Right Ascension in 1983

(IAU 76 - J 2000)	R.A. $16^h\ 29^m$ +	ERROR
FK5	$24^s.480$	$0^s.003$
FK4 J2000	24.496	0.004
VLA	24.475	0.001
Valinhos(45)	24.474	0.007
(30)	24.482	0.009
Santiago(30)	24.473	0.007
	24.479	0.003
AMC-Bordeaux	24.475	0.004
PMC-Tokyo	24.465	0.009

III. CONCLUSIONS

The fair agreement among astrolabe, meridian circle and VLA results for the right ascension of αSco A places this radio star as a good candidate to the role of link between radio and optical system in the Southern hemisphere. It points to the correctness of the VLA equinox. The coincidences of the results of VLA, Valinhos 45 and Santiago may be considered as an evidence of the proximity between the optical and radio emission centers of αSco A.

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