

## ABSTRACTS OF CONTRIBUTED PAPERS

CARINA ARM STUDIES:  
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We present a polarimetric study of the interstellar material along the Carina spiral feature, using multicolor polarimetric measures for 30 stars in *UBVRI* bandpasses belonging to the rich stellar aggregate IC 2944. This object is embedded in an extensive H II region and located at the inner border of the Carina spiral feature.

The foreground polarization in the direction to IC 2944 is normal and has a  $\lambda_{max}$  value of  $0.55 \mu\text{m}$ . Polarization efficiency is found to be intermediate. We find that the observed polarization of most stars is not intrinsic but rather due to the interstellar material; a few stars show characteristics in their Serkowski curves which indicate the possible presence of intrinsic polarization. Also, we can conclude that IC 2944 follows the general trend of the polarization (projected magnetic field) directions in the zone, with an average direction of  $91^\circ.2$  in equatorial coordinates; the *intra-arm* magnetic field direction is randomly oriented.

<sup>1</sup> Based on observations obtained at the Complejo Astronómico El Leoncito, operated under agreement among the Consejo Nal. de Investigaciones Científicas y Técnicas de la Rep. Argentina, Secretaría de Ciencia y Tecnología de la Nación, and the National Universities of La Plata, Córdoba and San Juan.

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THE NATURE OF THE LUMINOUS  
BLUE VARIABLE AG CARINAEC. Rossi<sup>1</sup>, M. Barylak<sup>2</sup>, A. Cassatella<sup>3</sup>,  
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M. Villada<sup>5</sup>, and R. Viotti<sup>3</sup>

AG Car is another luminous blue variable in the Carina Nebula for which large photometric variations have been recorded in historical times. Since the earlier 1949 Argentinian observations, the optical spectrum of the star underwent deep changes which are reviewed and analyzed, with special regard to the hottest recorded phase of June 1990. 15 years of *IUE* observations are also summarized. We discuss the structure, chemical composition and dust content of the circumstellar nebula in the light of possible evolutionary scenarios of AG Car. We give evidence that, like in  $\eta$  Car, also in AG Car, dust is continuously condensing from the stellar wind.

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LARGE SCALE PROPERTIES OF  
MOLECULAR GAS IN THE CARINA ARM

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The large scale properties of molecular gas in the Carina arm are examined and compared to those of H I; we identify the most massive molecular clouds and use them to trace the Carinae arm in the plane of the Galaxy. The association of these molecular clouds with known OB associations and H II regions is examined and, using the *IRAS* point-source catalogue and CS (2-1) observations, the most luminous embedded regions of massive star formation is identified.