

The Galactic O-Star Spectroscopic Survey (GOSSS). II. Bright Southern Stars

A. Sota, J. Maíz-Apellániz, N. I. Morrell, R. H. Barbá, N. R. Walborn, R. C. Gamen, J. I. Arias, and E. J. Alfaro

IAA-CSIC, LCO, ULS, STScI, IALP

We present the second installment of GOSSS, a massive spectroscopic survey of Galactic O stars, based on new homogeneous, high signal-to-noise ratio, $R \sim 2500$ digital observations from both hemispheres selected from the Galactic O-Star Catalog (GOSC). In this paper we include bright stars and other objects drawn mostly from the first version of GOSC, all of them south of $\delta = -20$ degrees, for a total number of 258 O stars. We also revise the northern sample of paper I to provide the full list of spectroscopically classified Galactic O stars complete to $B = 8$, bringing the total number of published GOSSS stars to 448. Extensive sequences of exceptional objects are given, including the early Of/WN, O Iafpe, Ofc, ON/OC, Onfp, Of?p, and Oe types, as well as double/triple-lined spectroscopic binaries. The new spectral subtype O9.2 is also discussed. The magnitude and spatial distributions of the observed sample are analyzed. We also present new results from OWN, a multi-epoch high-resolution spectroscopic survey coordinated with GOSSS that is assembling the largest sample of Galactic spectroscopic massive binaries ever attained. The OWN data combined with additional information on spectroscopic and visual binaries from the literature indicate that only a very small fraction (if any) of the stars with masses above 15-20 M_{Sol} are born as single systems. In the future we will publish the rest of the GOSSS survey, which is expected to include over 1000 Galactic O stars.

Reference: To appear in ApJS

Status: Manuscript has been accepted

Weblink: <http://jmaiz.iaa.es/files/Sotaetal14.pdf>

Comments:

Email: jmaiz@iaa.es