

lines derive from a zone interior to H Balmer serie formation region (where densities exceed 10^9 cm^{-3}). The absorption features are formed in an intermediate zone with velocities in the range $500 - 600 \text{ km s}^{-1}$. In the outermost, lower density region of the wind where the forbidden emission lines arise, the wind is decelerated to values of the order of 200 km s^{-1} . Assuming spherical symmetry and a constant wind outflow velocity given through the maximum extent of the forbidden blue wings, we evaluate a size of 200 AU for the region where forbidden lines are formed and an upper limit of $10^{-6} M_{\odot} \text{ yr}^{-1}$ for the mass loss rate, reasonable values for Ae/Be H stars.

$\alpha(16)\Lambda(9)\Psi(25)$ PHOTOMETRY OF WOLF-RAYET STARS

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We present observational data in the $\alpha(16)\Lambda(9)\Psi(25)$ -photometric system for 11 Wolf-Rayet (W-R) stars. The results show possible variations in the strength of the He II line at $\lambda 6560 \text{ \AA}$ in 6 of the objects; and none in the strength of the He I line at $\lambda 10830 \text{ \AA}$. Most of the WC stars are separated from the WN stars in the $\alpha(16)\Lambda(9)$ -array.

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THE ORION NEBULA IN MESOAMERICA

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In the last thirty years the native constellation Mamalhuaztli, or Fire Drill has been identified with Orion's Belt and Sword; by Coe in 1975 applying linguistic analysis; by León-Portilla in 1963, from its meaning in Nahuatl 'Thought' and by Maupomé in 1984 from direct observations at archaeological sites. "... by the same name they name the sticks from which they drill a fire" (Florentine Codex). According to Tedlock 1979, modern day Guatemalan informants consider that the Great Nebula is smoke left over from the furnace from when the Fire was burnt. They believe that in that

region, ashes are still smoldering.

At present, the brightest stars of the late autumn sky, centered in the Fire Drill, which according to Reichel-Dolmatoff 1982, carry cultural meanings in Colombia, appear to rise from the Sun's pyramid in Teotihuacán. 5100 years ago, at the Maya Initial Date of the present Chronological Era (one fifth of a full precession), they rose in the direction of orientation of Teotihuacán's minor axis (and of many other Mesoamerican cities). This shift in the rising point of the Fire Drill is due to the precession, which takes δ Ori in Orion's Belt from the equator to -48.5 degrees and back to the equator without crossing it. The Fire Drill belongs to the southern celestial hemisphere.

At the end of this last of the Five Eras of Mesoamerican cosmogony (on Winter's Solstice day of the year 2012), δ Ori in the Mamalhuaztli constellation, the Fire Drill god, marks the end of a cycle of precession by arriving at the celestial equator. As if precession were a cycle marked in time with beginning and end (Maupomé 1983, 1988).

One wonders whether the importance of the Fire Drill could be due to naked-eye observations of changes in the brightness in the constellation during the past ten millennia?

NEW RESULTS FROM NORTHERN RING NEBULAE

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We report new spectroscopic observations of four ring nebulae surrounding population I Wolf-Rayet (WR) stars: L69.8+1.7 (MR97), a nebula around MR100, S308 (HD 50896) and G2.4+1.4 (LSS 468), selected from the catalogue of Chu *et al.* (1983). The aim of this work is to study the physical conditions, the ionization structure and the chemical composition of these objects. We have determined abundances for O/H, N/H and He/H in all the nebulae as well as Ne/H in two positions along S308. In the case of N/H, the abundance analysis reveals an extreme enhancement in one of the positions along S308, a factor greater than 10 times the expected for its galactocentric distance and its oxygen abundance. We also detect large amounts of this element in G2.4+1.4 (a factor of 4 higher), while the other two objects do not present this behaviour. For He, we found possible abundance enhancements correlated with the N-rich positions.