26.05 Par-Ultraviolet Flux Distributions of Orion Stars Revisited - G. E. CAREYERS AND H. M. HECKATHORN, E.O. Hubbell Center for Space Research, NRL. Early type stars in Orion were observed with an objective-grating, all-reflective spectrograph in a NASA Aerospace 350 sounding rocket flight 12 March 1982. The instrument was similar to that used in a May 1978 flight in which stars in Cygnus were observed, except that calcium coatings were used on the grating and camera mirror instead of the Al + LiF coatings used previously. This provided a flatter, more accurately measurable, and more stable spectral response in the difficult 900-1200 Å wavelength range. Previous observations in this range by Johns Hopkins, NRL, and Voyager UVIS investigators have yielded widely discrepant values for the absolute and relative flux distributions of hot stars. The instrument used in the present observations was calibrated before flight using the NBS SURF-II synchrontron light source, and a laboratory EUV source whose intensity vs. wavelength was monitored by a secondary standard pulse-counting detector. In the flight well-exposed spectra were obtained for more than a dozen stars, including $\psi$, $\delta$, $\epsilon$, $\zeta$, $\eta$, $\sigma$, $42$, $81$, $62$, 1, and $\upsilon$ Ori (spectral type range from O7 to B3 and luminosity class range la to V). The quick-look results indicate that the flux distributions of the stars observed are in closer agreement with the Kurucz model atmosphere predictions than were the previous observations in this spectral range.

26.06 IUE Observations of the Upper Main Sequence Helium Rich Stars - P.K. BARKERUM, D.N. BROWN - Debarsh, J.D. LANDSTREED, AND S.N. SHORE - NASA. We report on first results of a comprehensive survey of the main sequence helium rich stars with the high resolution IUE using IUE. The stars in this sample are both slow and rapid rotators. They include: HD 37017 (0190 Id), 37479 (1.191d), 64740 (1.330d), 37776 (1.539d), 184927 (9.536d), 111 with known periodic optical variability and HD 83280, 60344, 96464, 120640, and 133518, all with either very long periods or no observed variation. Phased observations show that the C IV and Si IV resonance doublets show periodic strength and profile variations consistent with phase-modulated stellar winds. Both asymmetric emission and absorption components are observed. Some preliminary interpretations will be discussed. Line profile and equivalent width variations for other ions will also be presented.

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26.07 Corona-Warm Wind Model For The X-Ray Emission From Of Stars and OH Supergiants - W. L. WALDRON, Bartol Research Foundation and University of Wisconsin-Madison. The wind structures of early-type stars which have base coronal zones are discussed. The calculations give rise to what is called a Corona-Warm Wind structure because coronal X-rays photoneutralize He II and heat an extended region to temperatures $\sim 10^5$ K. The heated wind has a reduced line and continuum opacity and this results in a decreased acceleration by radiation on lines and a slower rise in velocity in agreement with recent empirical models. The decreased continuum opacity allows for an increase in the emergent X-ray flux at $E \lesssim 1$ keV. The X-ray spectra are compared with those observed with the IPC instrument on the Einstein Observatory and are found to be in excellent agreement. This shows that contrary to earlier analyses, base coronae are not ruled out by the existing X-ray data. The predicted emergent X-ray luminosities are in agreement with the observed values ($L_x \sim 10^{-7} L_{bol}$). However, the incident X-ray luminosities ($L_x$) from the coronae at the base of these stellar winds are significantly larger: for the O stars, $9.5$ erg and $10^{-2}$ $L_{bol}$ and for the B supergiants, $0.1$ erg and $L_{bol}$; $L_x \sim 3 \times 10^{-4} L_{bol}$.

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26.08 Gas Flow in the Chromosphere of a Ori. O. KJELDSETH MOE, O. ENGVOID, E. JENSEN, Univ. of Oslo, J.L. LINSKY and R. STENCEL, JILA, Univ. of Colorado and NBS - Gas flow and acceleration in the chromosphere of a Ori has been studied using a high resolution, short wavelength IUE spectrum taken with a 930 min exposure time. The investigation makes use mainly of S I lines: The triplet series resonance lines at 180.7, 182.0 and 182.6 nm, the singlet series line at 166.6 nm and the intersystem lines at 190.0 and 191.5 nm. Also the C I intersystem line at 193.1 nm is used.

An average flow velocity of 30 km/s is deduced from the Doppler shifts of all the lines. The profiles of the S I resonance triplet show central reversals and are symmetric with regard to emission peak stronger than the shortward. The asymmetry may indicate an outward acceleration of the gas flow from 20 km/s to 40 km/s across the chromospheric layers where these lines are formed. Intensities are calculated for the lines for various simple model chromospheres and compared with the observations in an attempt to deduce the important contributions to the formation of the lines.

26.09 A High Resolution EUV Spectrum of a Ori. O. ENGVOID, O. KJELDSETH MOE, E. JENSEN, Univ. of Oslo, J.L. LINSKY, and R.E. STENCEL, JILA, Univ. of Colorado and NBS - Chromospheric emission lines of a Ori (M2 Iab) have been measured using a high resolution 930 minutes