solving power, reveal considerably enhanced Lyman α radiation in the active spot and plage areas on the sun at the time of the flight. Data from a spectrogram taken on the same rocket flight lead to a reliable measurement of the Lyman α line half-width. A summary of rocket data on Lyman α radiation will be made.

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Routly, Paul M. An atomic beam apparatus for measurement of absolute f -values.

An atomic beam apparatus is used to measure the absolute f -values of lines in elements of astrophysical interest, particularly those in the iron group. A small furnace produces a fan-shaped beam of atoms through which a light beam from a continuous source is passed. The equivalent widths of the absorption lines are measured with the aid of a 21-foot grating spectrograph. The methods used in determining the concentrations of the atoms in the beam and the curve of growth of the absorption lines observed are described. This approach appears to be applicable to most of the metals which when heated in a vacuum evaporate as a monatomic vapor.

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Sahade, Jorge. A new velocity curve of W Serpentis.

The spectrum of the eclipsing variable W Serpentis, on 10 Å/mm plates secured at the Mount Wilson Observatory, shows a complex superposition of absorption and emission features.

The absorption spectrum displays narrow lines which arise from a shell, probably surrounding the whole system, broad and weak absorption lines from a source in fast rotation, and broad violet absorptions which flank the broad emission shown by H . The H emission is shown at all phases and behaves in a very peculiar manner.

Near principal minimum, all lines display emission, which, before mid-eclipse are displaced shortward relative to the shell absorption lines, and after mid-eclipse are displaced redward. Furthermore, at all phases, the spectrum shows the presence of the strongest predicted lines of [FeII].

The distribution of the velocities from the shell lines differs greatly from the one derived by Bauer eleven years ago. There is evidence that at some phases the shell lines are blended with the stellar lines and the amount of blending causes differences in the shape of the velocity curve.

The examination of the plates suggests that the shell is above the source of the broad emission and this layer, in turn, above the source of the broad and relatively weak absorption lines. The system could probably be pictured as formed by a late A-type primary, rotating relatively fast, which ejects matter at velocities of the order of 300 km/sec, forming an envelope around it. Part of the ejected matter forms a ring around the secondary star, which must be of relatively small size. The whole system is surrounded by a tenuous shell, the outermost observable layer of which gives rise to the forbidden lines and to sharp absorption lines which are seen at some particular phases.

Our radial velocities from the shell lines suggest a value of K of the order of 10 km/sec, while the broad, and presumably stellar, lines suggest K of the order of some 60 km/sec. This value of K implies an $f(m)$ of the order of 0.4 $\odot$. If we derived values for m_1 and m_2 , consistent with this mass-function, we obtain

m_1	m_1/m_2	m_2
3.5 $\odot$	1.96	6.9 $\odot$
2.0	1.24	2.4
1.5	0.94	1.4
1.0	0.58	0.6
0.5	0.12	0.06

It is very unlikely that the secondary star could be more massive than the primary and yet its spectrum not observable at any time. Therefore, the primary star is probably an undermassive star.

The photometric evidence available suggests that the period of W Serpentis is lengthening, and adds another piece of information to the conclusion that W Serpentis is a close binary system which is evolving rapidly.

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Salanave, Leon E. Preliminary tests of day- and night-time seeing on Junipero Serra Peak, California.

Junipero Serra Peak, elevation 5862 feet, is the highest point in the Santa Lucia Range of central California. The ocean extends to the