To calculate the line absorption coefficient Kolb's theory on line broadening by the Stark effect is used (Kolb 1954, and private communication). This theory is now in the process of revision but his preliminary work is adequate for this calculation. To normalize the Kolb absorption coefficient a fit is made between the Holtsmark-Verweij absorption coefficient and the Kolb coefficient at some point in the wing of a Balmer line. The contribution of the electrons to the Holtsmark distribution is included in the normalization process.

The line profile of $H\gamma$ is derived on the assumption that the Balmer lines are formed by pure absorption, i.e., the source function is the Planck function.

The resulting theoretical line profiles for both models are deeper and broader than the observed profile made available by J. L. Greenstein in a private communication. The reasons for the deviation are discussed and the two most plausible seem to be the neglect of helium in the atmosphere and the line-broadening theory. The helium does not contribute directly to the opacity but decreases the absorption coefficient per gram of stellar material. The line absorption-coefficient as calculated in this paper from the line-broadening theory is too large. Part of this may be due to the method used in normalizing the Kolb absorption coefficient.

The increase in $\log \bar{\kappa}$ due to absorption in the wings of the Lyman lines makes the line profile steeper than for the model ignoring this effect. This is due to the faster decrease of the ratio of line to continuous absorption with the wavelength distance from the center of the line.

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Guess, Arnold W. Reflection of point-source radiation from a Lambert plane onto a plane receiver.

The diffuse reflection of point-source radiation from a horizontal Lambert plane onto a small flat receiver is considered. The parameters involved are: ρ , the albedo of the Lambert plane; A/R , the scaled altitude of the receiver; S/R , the scaled "ground" distance of the receiver; and R/h , the scaled, finite, radius of the Lambert plane. The h is the altitude of the point source

above the Lambert plane, and R originates from ground zero (projection of point source on Lambert plane).

When the plane receiver is parallel to the Lambert plane, the formula for the intensity on the plane receiver reduces to the form of algebraic expressions multiplied by incomplete elliptic integrals of the first and second kinds, which are tabulated. The reflected radiation intensity may then be compared to the direct radiation intensity.

When the plane receiver is arbitrarily inclined with respect to the Lambert plane, the results of machine computations show that a maximum intensity exists on the plane receiver when the receiver is very nearly facing the specular image point. The computations also show that the intensity obeys a cosine law for reasonably large angular deviations of the receiver from its position from maximum.

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Gulledge, Irene S., Hardie, Robert H. and Seyfert, Carl K. A study of the association I Geminorum.

The association of high-luminosity stars centered near 3 Geminorum is listed by Morgan, Whitford, and Code (1953) as falling within an area $3^\circ \times 5^\circ$ at a distance of 1.5 kpc. Magnitudes and colors on the UBV system for 32 B stars in this region brighter than 12th visual magnitude were obtained with a photoelectric photometer. Twelve of these were emission objects, eight having been identified by Merrill and Burwell (1933, 1943, 1949, 1950). The other four were the brightest of twelve new Be stars found on objective-prism plates taken with the 24-inch Baker-Schmidt telescope of the Arthur J. Dyer Observatory. The twenty remaining stars were non-emission B stars having good spectral types and luminosities (Morgan, Code, and Whitford 1955). Spectral classifications were made from the objective-prism plates for those stars not classified elsewhere. Fifteen of the 32 stars measured were listed in an earlier work on this region (Crawford *et al.* 1955) as members or probable members of the association.

Results show strong absorption in some parts of the field, particularly around HD 254577. Crawford *et al.* (1955) called attention to the fact that this star has an unusually intense interstellar K line. There are four galactic clusters in the area, M 35 near the center being the most