calculated to evaluate this acquirement of angular momentum and it is found to be generally very small; therefore, these tidally induced torques are of no importance for most fragments in the protogalaxy cloud. Torques induced by grazing collisions are important only for those very few fragments which experience such a collision. We conclude that one should consider the fragment's angular momentum at a given epoch to be the result of the initial rotational component of the turbulent velocity field from which it formed, lessened by the mechanisms which cause a loss of spin.

A mechanism for the loss of angular momentum is presented which is purely hydrodynamic in character. An asymmetric spinning fragment generates waves in the surrounding gas, and these waves carry off angular momentum. So-called "soft" boundary conditions are applied in the solution of the partial differential equations. The results shows that in a number of realistic conditions this mechanism for decreasing spin is important, and will act with other mechanisms (e.g., hydromagnetic) to brake some of the fragment's spin.

A Laboratory Astrosensitometer. A. G. MILLIKAN AND J. C. MARCHANT, *Eastman Kodak Company*.—An astrosensitometer is described which provides starlike images superimposed on an equivalent of the night sky background. This image configuration relates closely to that obtained in limit photography at telescopes of large aperture but provides a series of images of known magnitude difference and contains a sufficient number of identical images to permit the detection limit to be estimated on a statistical basis. Conventional sensitometric exposures are provided simultaneously.

Magnetic Fields and Flares in the Region with CMP 20 September 1963. G. E. MORETON, *Sterrewacht Sonnenborgh*, and CSIRO Division of Physics, AND A. B. SEVERNY, *Crimean Astrophysical Observatory*.—Photoelectric measurements of both the longitudinal and transverse components of magnetic fields were made daily during 17–24 September, using the line Fe I λ 5250; the resultant magnetograms refer to fields <1000 G. The aperture corresponded to 2"×4"; image motion may occasionally enlarge this resolution to about 6"×8". Careful registration of the magnetograms, photoheliograms, and H α filtergrams ensures accuracy of flare positions to within the resolution of the magnetograms. Emphasis is placed on the position of the emission knots that represent the *first brightening* of a flare:

(1) For 27 flares, 70% had first brightenings limited to two or three points or knots, that occur

nearly simultaneously in widely separated parts of the activity center. The initial knots are separated by the magnetic neutral line that divides regions of opposite polarity. Only two flares had all their initial knots in a region of one polarity.

(2) At least one of the initial knots of a flare tends to lie *immediately adjacent* to the neutral line, and in a region of greatest longitudinal field gradient. For 60 separate knots, 80% were situated such that the distance from the center of the knot to the neutral line was less than 10". (For comparison, the distance between the three umbra composing the region was about 60"). Only four flares had an initial knot overlapping the neutral line.

(3) From 17–21 September the flaring tends to favor two distinct centers in the region. One center corresponds approximately to where the transverse field vectors appear to cross or merge. The resulting bifurcated appearance is suggestive of crossed transverse fields. Other flares tend to occur in regions of strong, oppositely directed, electric currents.

Far-Ultraviolet Spectra of Six Stars in Orion. DONALD C. MORTON, *Princeton University Observatory*.—An Aerobee rocket carried two ultraviolet objective spectrographs to 186 km on the morning of 13 October 1965 and pointed them towards ϵ Orionis within 1°. The cameras and stabilization system were similar to those used to obtain spectra of stars in Scorpius in June 1965. This time one of the f/2 Schmidt cameras had a lithium fluoride corrector, while the other used calcium fluoride as before. An unexpected shock during re-entry severed the mirror and film cassettes from the calcium fluoride camera so that films from only the lithium fluoride one were recovered.

Development of these films showed ultraviolet spectra of the six OB stars in Orion listed below with their wavelength ranges.

Star	V	B–V	Spectrum	Wavelength range	Velocity
δ Ori	2.20	–0.21	O9.5II	1200 to 1415Å	–1400 km sec ^{–1}
ϵ Ori	1.70	–0.19	B0Ia	1220 1595	–1900
ζ Ori	2.05		O9.5Ib	1200 1740	–1900
η Ori	3.35	–0.19	B0.5V	1220 1400 (weak)	
ι Ori	2.77	–0.25	O9III	1235 2100	–3000:
κ Ori	2.04	–0.18	B0.5Ia	1630 2795	

An exposure of 180 sec gave the best spectra, with a resolution of about 3 Å, somewhat poorer than the 1 Å obtained on the previous flight. Nevertheless, many absorption lines and a few emission lines are definitely visible in the spectra. Zero-order images of other stars on the same film permit an absolute calibration of wavelengths within 1 Å. Emission lines of Si IV at 1402.7 Å and C IV at 1549.5 Å are identified in ζ and ϵ . Strong absorption lines of both