tion has been carefully studied by Seares and others.

Counts to the sixteenth photographic magnitude, 1800 stars, and to the fifteenth photo-red magnitude, 3000 stars, were made on plates taken with the Curtis Schmidt of the University of Michigan Observatory.

The two analyses, of photographic and photo-red data, are to a considerable extent independent of one another. The counts are made on different sets of plates and magnitude systems. The interstellar absorption differs due to the different effective wave lengths, and the two general luminosity functions differ in form. Nevertheless, if all data and assumptions are correct, the two density functions must be in agreement.

In this investigation, the photographic counts were analysed numerically, and the resulting density function was combined with the photo-red luminosity function to give a prediction of the theoretical photo-red counts. The calculated and observed photo-red counts are in clear disagreement.

The source of this lack of agreement is not yet apparent, but its occurrence in the present situation, in which the errors of the magnitude standards are negligible, and the character of the interstellar absorption is better established than is ordinarily the case, is a further indication of the difficulties which stand in the way of the interpretation of general star counts.

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Millman, Peter M. The color index of meteors.

Effective color indices of meteors can be found by integrating the light intensity in the visual and photographic regions of the spectrum, and comparing the results with the values found for the A0 stars. Representative examples of meteor spectra, photographed at the Dominion Observatory 1946–1950, have been studied in this way. The ranges of wave lengths used were 5000–6700 and 3700–5000 A, respectively. Vega was used as a standard star and all indices were corrected to the zenith.

In general, the slower meteors are white, of about the same color as an A0 star. The faster meteors like the Perseids are yellow when faint, but with the development of the H and K lines of calcium at the bright part of the trail they are blue, with negative color indices.

Date	E.S.T.	Meteor	Vis. Mag.	Sp.	Pos.	Color Index.
1946						
Oct. 10	3^h22^m5	Giacobinid	0	Z		+0.3
Oct. 10	3 51.7	Giacobinid	−2	Z		−0.1
1949						
July 28	0 20.8	Sporadic	−1	Z		+0.2
Aug. 12	22 19.9	Perseid	−4	Y	1	+0.8
					2	+0.7
					3	−0.2
					4	−0.9
					5	0.0
					7	−0.9
					8	−1.0
					9	−1.4
1950						
Aug. 11	21 45.3	Perseid	−5	Y	2	−0.4
					3	−0.3
					4	−0.3
					5	−0.4
					6	+0.1

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Naqvi, Ali M. Coupling parameters and transition probabilities in *p* electron configurations.

Transition probabilities for intermediate coupling cases have been calculated for atoms and ions from carbon to nickel whose ground configurations are p^2 and p^4. The work on p, p^3, and p^5 is in progress. The transitions involved are between levels of the same configuration and, hence, they are electric quadrupole and magnetic dipole transitions. Most of the lines observed in the solar corona and in gaseous nebulae are included in this work.

The departures from (S,L) coupling are expressed in terms of the spin-orbit integral ζ, and the electrostatic integral F_2; ζ and F_2 are calculated by equating the theoretical expressions for the energy levels with their observed values.

The main feature of this work is the inclusion of the effects of mutual magnetic interactions. These interactions enter into the calculations of transition probabilities not only in so far as they introduce new terms in the theoretical expressions, but also indirectly through the revised calculations of ζ. Aller, Ufford and Van Vleck[1] have calculated transitions probabilities for OII $2p^3$ ^4S-^2D multiplet, taking only the direct effects of mutual magnetic interactions into account.

The matrices of mutual magnetic interactions for p^2 have been given by H. H. Marvin.[2] The