value of the parallax, the absolute visual magnitude of the variable is seen to range from $-1.8$ to $+6.1$. Our absolute magnitude of the companion is $+7.0$ to $+7.5$, somewhat brighter than the average white dwarf. The white star is almost certainly variable. Considering the size of our probable error, there is slight probability that the system is more than one magnitude fainter, or one and one half magnitudes brighter, than the figures given.

Near minimum of the variable the photographic magnitudes of the components may be equal, and the position of the integrated image will then fall half way between the positions of the individual components. At times the white star seems to be the brighter, the integrated image being close to the position which this component occupies when both are seen. The attempt to find the relationship between displacement and relative magnitude of the components of the double star failed because of our inability to determine exact relative magnitudes excepting when the two components were nearly equal. We succeeded in establishing that the bright star is not displaced by an amount greater than the probable error when the difference in photographic magnitude is greater than 1.5 magnitudes.

A THEORY OF SPIRAL STRUCTURE IN NEBULAE
BY S. CHANDRASEKHAR

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NOTE ON THE MASS OF VENUS DERIVED FROM OBSERVATIONS OF MARS
BY G. M. CLEEMENCE AND F. P. SCOTT

The meridian observations of Mars are compared with Newcomb's theory after correcting it for the fluctuation and small errors of the elements. It is shown that there exists an inequality in the heliocentric longitude of Mars, not given by the theory. The period is about 26 years and the half-amplitude 0'.18. A similar inequality is found in the observations made with the heliometer at the Cape of Good Hope.

The mass of Venus determined from observations of Mars with the heliometer is very different from that obtained from the meridian observations, and both determinations disagree with the mass obtained from observations of Mercury and the Sun. It is shown that these discordances are produced by correlation between the discovered inequality and the principal term in the action of Venus on Mars, which has a period of about 33 years.

It is concluded that the theory of Mars is defective, and that until it is revised, the mass of Venus cannot be satisfactorily determined from observations of Mars.

The note will appear in the *Astronomical Journal*.