

of hydrogen. This spectrum is produced by the ionisation of hydrogen atoms: its intensity is a measure of the fraction of hydrogen atoms remaining un-ionised. Yü has found empirically that it is a function of colour-temperature and of absolute magnitude. The method eliminates one unsatisfactory feature in the method of Adams and Joy, namely, the use of different empirical reduction curves for stars of different types. Yü's

photometric measures determine colour-temperature and hydrogen absorption from the same spectrogram, and from these two quantities the absolute magnitude may be inferred. It is too early to estimate the ultimate value of the method, but it is at once a new weapon for the determination of parallaxes by calibration on known stars, and a challenge to theoretical investigators.

Obituary.

PROF. W. J. HUSSEY.

PROF. W. J. HUSSEY died suddenly in London on Thursday, October 28. He reached England on October 23 with Mrs. Hussey and with Mr. and Mrs. Rossiter. They proposed to leave for the Cape on October 29, taking with them a large telescope of 27 inches aperture and 41 feet focus. This was to be installed near Bloemfontein, Prof. Hussey remaining until the building was completed and leaving Mr. Rossiter in charge to carry out an extensive programme of double star observations. Prof. Hussey had only lately recovered from an attack of pleurisy, but seemed fairly well on October 27, when he gave an address to the British Astronomical Association.

William Joseph Hussey was born at Mendon, Ohio, on August 10, 1862, and graduated B.S. of the University of Michigan in 1889. For some years he taught mathematics in the University of Michigan, and was acting director of the Detroit Observatory. In 1892 he was appointed assistant professor of astronomy at the Leland Stanford Junior University, afterwards succeeding to the chair. From Leland Stanford it was a natural transition to the post of assistant astronomer in the Lick Observatory, not many miles away.

Hussey's knowledge and enthusiasm were such as to enhance the high traditions of this famous observatory. Barnard and Burnham had left, and their places were filled by Aitken and Hussey. The first important work Hussey undertook was the re-observation and discussion of the double stars observed by Otto Struve. The results form vol. 5 of the Lick Observatory publications. Hussey measured many close and difficult double stars which were only within reach of the largest telescopes. Among them may be instanced δ Equulei, which has an elliptic orbit, and the two stars are only separable when near elongation. He followed this star closely and found it to have a period of 5.7 years, one of the shortest known, while previous observers had supposed the period to be about double this length. It may be interesting to note that he determined the parallax of this star by a combination of line of sight determinations of linear velocity with the determinations of angular movement resulting from double star measures.

In 1899 Hussey joined Aitken in a systematic examination of all stars between the pole and -22° down to 9.0^m or 9.1^m , to discover which of them were double. They worked on this programme from sunset to sunrise, and when Hussey left in 1906 to be professor of astronomy and director of the observatory of the University of Michigan, he had discovered so many as 1327 new double stars. Here he was engaged in spectroscopic work and in building and organising

a new observatory. In 1911 the directorship of the observatory of La Plata was added to that of the University of Michigan. Before his resignation of this post in 1917, he had discovered 312 new southern double stars.

In 1902 Hussey was appointed to make telescopic tests of the suitability of sites in South California and Arizona for a solar observatory, and strongly advocated the selection of Mount Wilson. From 1917 he had in mind the possibility of the establishment of an observatory in the southern hemisphere specially for double star work. Three years ago he visited South Africa, and was very favourably impressed with the site of Bloemfontein. A personal friend from college days, Mr. Lamont, has recently provided funds for a telescope, designed and built under Hussey's direction, with an object-glass by Zeiss. This telescope was completed and was being taken to Bloemfontein at the time of Prof. Hussey's death. We understand that arrangements have been made to go forward with the establishment of this observatory, and that Mr. Rossiter left for South Africa on November 5. This, we may be sure, would have been in accordance with Prof. Hussey's wishes.

Prof. Hussey had many friends among English astronomers, who admired his gifts of industry and enterprise, and were always pleased when occasions like eclipse or other expeditions brought him to London and gave an opportunity of meeting him. He had been a foreign associate of the Royal Astronomical Society since 1903.

F. W. D.

WE regret to announce the following deaths:

Prof. F. M. Caird, emeritus professor of clinical surgery in the University of Edinburgh and a past president of the Royal College of Surgeons of Edinburgh, who worked as a student under Lister, on November 1, aged seventy-three years.

Dr. W. Romaine Newbold, Seybert professor of moral philosophy in the University of Pennsylvania, who wrote on suggestibility, automatism and kindred phenomena, on September 26, aged sixty years.

Dr. Francis E. Nipher, emeritus professor of physics in Washington University, St. Louis, whose work covered aspects of gravitating nebulae, wind pressure, and the electric discharge, on October 6, aged seventy-eight years.

Dr. Franz Pfaff, formerly professor of pharmacology and therapeutics at the Medical School of Harvard University, on September 26, aged sixty-six years.

Dr. C. A. Waldo, emeritus professor of mathematics in Washington University, St. Louis, known for his work on warped surfaces, on October 1, aged seventy-four years.