described his latest streak camera which is addressed to this problem of low light intensity. The camera has a moderate writing speed (up to 5 mm/μs) and a high aperture (f/2.8 effective at the film plane). He detailed the design considerations which resulted in this rotating mirror camera, which was specifically designed for use in the field of plasma discharges (such as in research of Θ-pinch plasma discharges), but which might find application elsewhere where low-light intensity is a problem.

The author acknowledges, with gratitude, the aid of the authors of the referenced papers who kindly supplied preprint copies of their papers, and permission to publish a few typical illustrations.

Comments on Dynamic Photoelasticity and Fracture

By PAUL D. FLYNN

THIS BRIEF report deals with three papers on dynamic photoelasticity and two papers on fracture which were of interest to this reporter. Lord (93)* did not show any dynamic stress patterns, but he did present some interesting ideas on the possible use of bent beam compensators and image dissection techniques for determining low fringe orders in photoelastic models using white light and high-speed photography.

The problem of dealing with low fringe orders in glass models was handled by Schwieger and Spuida (90) in a different way. They used the Sabattier effect to obtain lines of equal intensity, or equidensity. These can be obtained by special processing from either a negative or positive image of a stress pattern. A beam in pure bending was used to calibrate the equidensity lines, and this was photographed along with the model under test. A two-dimensional circular ring under diametral impact was studied. Repeated tests and elastic impacts were produced by a steel ball suspended as a pendulum. Photographs were taken at different delay times using a xenon flash-tube without filters to obtain a sequence of dynamic stress patterns in a reflection-type polariscope.

Birefringent coatings were used by Pirodda and Berbenni (56) to determine transient strains in a simply supported beam impacted at the center. The model was made of annealed copper and was stressed beyond the elastic limit. Single flash pictures were taken using a General Radio 1531A Strobotac and a Schott interference filter (4400Å) in a reflection polariscope. The moiré technique was used to obtain the contour lines in a simply supported circular plate loaded transversely. The authors concluded that the reproducibility of plastic deformations at low strain rates was adequate for single flash photography and repeated tests.

Fractures produced by exploding wires on the edges of glass plates were reported by Kerkhof (54). These were used not only to study the overall fracture pattern, but also to determine the type and intensity of the stress waves producing the fracture. The rates of crack propagation in materials of high elastic moduli were studied by Field and Heyes (61) and were compared with theoretical predictions. Bifurcation of a fracture due to stress wave interaction was shown.

A paper to be presented during the Society's 99th Conference in Washington, D. C., May 1–6, 1966, by Dr. Paul D. Flynn, Pitman-Dunn Research Laboratories, Frankford Arsenal, Philadelphia, Pa. 19137. (This paper was received on March 8, 1966.)

* Numbers in parentheses refer to the papers' numbers in the Congress Program as listed on pp. 353–355. The papers will appear in the *Proceedings of the Seventh International Congress on High-Speed Photography*, to be published by Verlag Dr. Othmar Helwich, D-61, Darmstadt, Hoffmanstr. 59, Germany.