

2033 Post D
A NEW PHOTOELASTIC INTERFEROMETER SUITABLE FOR STATIC
AND DYNAMIC MEASUREMENTS
Proceedings Society for Experimental Stress Analysis
1954, Vol. 12, No. 1, pp. 191-202.

2034 Marshall D F
THE DYNAMIC STRESS-OPTIC COEFFICIENT OF PERSPEX
Proceedings Physical Society of London
1957, Series B, Vol. 70, pp. 1033-1039.

2035 Pugh E M, Heine-Geldern R V, Foner S and Mutschler E C
GLASS CRACKING CAUSED BY HIGH EXPLOSIVES
Journal of Applied Physics
1952, Vol. 23, pp. 48-53.

High-speed photographs have been obtained of the fracture of glass produced by the detonation of a high explosive charge. Using photoelastic methods, the shock waves set up in the glass can also be photographed.
Fringe patterns
not shown in data obtained.

2036 Wells A A and Post D
DYNAMIC STRESS DISTRIBUTION SURROUNDING A RUNNING
CRACK, A PHOTOELASTIC ANALYSIS
Office of Technical Service, P. B. 121987.

2037 Hetenyi M
A STUDY IN PHOTOPLASTICITY
Proceedings of the First U. S. National Congress of Applied
Mechanics, Ann Arbor, Michigan, 1952, pp. 499-502.

2038 Fried B and Shoup N H
A STUDY IN PHOTOPLASTICITY
TR No. 3, ONR Contract N7onr-330-III NR064-121, State College of
Washington, May 1953.

2039 Nisida M, Hondo M and Hasunuma T
STUDIES OF PLASTIC DEFORMATION BY THE PHOTOPLASTIC
METHOD
Proceedings Sixth Japanese National Congress of Applied Mechanics,
University of Kyoto, Japan, October 1956, pp. 137-140.

A proposal is made to use celluloid to represent an elastoplastic material such as a non-strain-hardening metal, and to determine stress and strain patterns in the plastic range by photoelastic techniques. The few simple examples tested indicate that not only can the plastic stress and strain distribution be determined but also the residual stress pattern after unloading can

be found. Although the time for a complete test is relatively long, the method shows considerable promise for at least qualitative studies of elasto-plastic materials in the plastic range.

2040

Bayoumi S E A and Frankl E K
FUNDAMENTAL RELATIONS IN PHOTOPLASTICITY
British Journal of Applied Physics
October 1953, Vol. 4, pp. 306-310.

A fundamental procedure for photoplastic investigations is proposed. This consists of taking two fringe photographs of the same model, one under load, the second immediately after removal of load. The difference between fringe counts at corresponding points gives the stress difference which in elastic problems is derived from a single photograph. (From authors' summary)

2041

THEORY AND APPLICATION OF PHOTOELASTICITY IN THE ELASTO-PLASTIC REGION (German)
Zeitschrift des Vereines Deutscher Ingenieure, Düsseldorf
January 1955, Vol. 97, pp. 49-58.

2042

Monch E
THE DISPERSION OF DOUBLE REFRACTION AS A MEASURE OF PLASTICITY IN PHOTOELASTIC INVESTIGATIONS (German)
Forschungsarbeiten auf dem Gebiet des Ingenieurwesen, Berlin.

2043

Fried B
SOME OBSERVATIONS ON PHOTOELASTIC MATERIALS STRESSED BEYOND THE ELASTIC LIMIT
Proceedings Society for Experimental Stress Analysis
1951, Vol. 8, No. 2, pp. 143-148.

2044

Garvin Elsie L
BIBLIOGRAPHY ON HIGH-SPEED PHOTOGRAPHY
Eastman Kodak Company, Rochester, New York,
September 1956. (840 references)

2045

BIBLIOGRAPHY ON HIGH-SPEED PHOTOGRAPHY INCLUDING SCHLIEREN AND CATHODE-RAY OSCILLOSCOPE PHOTOGRAPHY
Journal of the Society of Motion Picture and Television Engineers
1953, Vol. 61, pp. 749-757. (210 references)

2046

Edgerton H E and Barstow F E
FURTHER STUDIES OF GLASS FRACTURE WITH HIGH-SPEED PHOTOGRAPHY
Journal of American Ceramic Society
1941, Vol. 24, pp. 131-137.