

1044 Brown A F C and Vincent N D G
THE RELATIONSHIP BETWEEN STRESS AND STRAIN IN THE TENSILE
IMPACT TEST
Proceedings of the Institution of Mechanical Engineers, London
1941, Vol. 145, pp. 126-134.

1046 DeJuhasz K
GRAPHICAL ANALYSIS OF IMPACT OF BARS STRESSED ABOVE THE
ELASTIC RANGE
Journal of the Franklin Institute
July 1949, Vol. 248, pp. 15-48 and 113-142.

This article gives a detailed explanation of the use of graphical solutions to picture and solve problems relating to the impact of bars. A bibliography on impact, consisting of 45 references, is given. Wave propagation is pictured graphically.

1047 Burr A H
LONGITUDINAL AND TORSIONAL IMPACT IN A UNIFORM BAR WITH
A RIGID BODY AT ONE END
Journal of Applied Mechanics, Trans. ASME
1950, Vol. 72, pp. 209-217
Discussion Journal of Applied Mechanics
1950, Vol. 72, pp. 462-465.

1048 Riparbelli C
ON THE RELATION AMONG STRESS, STRAIN, AND STRAIN RATE
IN COPPER WIRES SUBMITTED TO LONGITUDINAL IMPACT
Proceedings Society for Experimental Stress Analysis
1956, Vol. XIV, No. 1, pp. 55-70.

A series of exploratory tests of tensile impact on copper wires is presented to show that the elastic component of a stress wave moves at a constant velocity regardless of the amount of plastic deformation. Method consists of dropping weight on copper wire. Bright tin spots on wire are photographed with high-speed photography to observe motion of the stress waves.

1049 Alter B E K and Curtis C W
EFFECT OF STRAIN RATE ON THE PROPAGATION OF A PLASTIC
PULSE ALONG A LEAD BAR
Journal of Applied Physics
1956, Vol. 27, pp. 1079-1085.

A very thorough article on the effect of strain rate on the velocity of propagation of a plastic wave in a bar. Tests were carried out to determine how pulses of plastic deformation disperse during propagation along a lead bar. The theory of rate of propagation is reviewed and experimental results are presented. Article contains a list of 20 references.

- 1050 Wood D S
ON LONGITUDINAL PLANE WAVES OF ELASTIC-PLASTIC STRAIN
IN SOLIDS
Journal of Applied Mechanics, Trans. ASME
1952, Vol. 74, pp. 521-525.
- 1051 Taylor G I
THE TESTING OF MATERIALS AT HIGH RATES OF LOADING
Journal of the Institution of Civil Engineers
1946, Vol. 26, pp. 486-519.
- 1052 Malvern L E
PLASTIC WAVE PROPAGATION IN A BAR OF MATERIAL EXHIBIT-
ING A STRAIN RATE EFFECT
Quarterly of Applied Mathematics
1951, Vol. 8, pp. 405-411.
- 1053 Campbell J D and Doby J
THE YIELD BEHAVIOR OF MILD STEEL IN DYNAMIC COMPRESSION
Proceedings Royal Society of London
1956, Series A, Vol. 236, pp. 24-40.
- Experiments are described in which a mild steel speci-
men is subjected to a compressive impact load. Stress-
time curves are obtained and analyzed. Micrographs of
specimens after yielding are shown to show the metal-
lurgical mechanism of yielding.
- 1054 Kolsky H
AN INVESTIGATION OF THE MECHANICAL PROPERTIES OF
MATERIALS AT VERY HIGH RATES OF LOADING
Proceedings Physical Society of London
1949, Vol. 62, p. 676.
- 1057 Lee E H
WAVE PROPAGATION IN ANELASTIC MATERIALS, DEFORMATION
AND FLOW OF SOLIDS
Colloquium, Madrid, 26-30 September 1955
Berlin, Springer Verlag, 1956
Also Office of Naval Research Contract Nonr-562(10)
NR-064-406, Brown University, Technical Report No. 5
December 1955.
- 1058 Ogibalov P M and Loginova M A
ON THE DEPENDENCE OF THE STRAINS IN A RAPID DEFORMATION
UNDER IMPULSIVE LOADING BEYOND THE YIELD POINT (Russian)
Vestnik, Moskov University No. 5, pp. 39-58, 1948.