

The invention relates to measurement technology, namely to extensometry, and can be used for measuring strains of solids, subjected to tension, including irreversible ones, for example critical residual strains in pressure vessels, in particular in high-pressure composite cylinders.

The noncontact strain gauge comprises at least two segments of microwire in a glass shell, the cores of which are made of ferromagnetic alloys with an amorphous structure, which have a bistable magnetization reversal behavior, at the same time one segment of microwire is used as a sensitive wire (2), made of a high Curie temperature and high magnetostriction alloy, and the other segment of microwire is used as a reference wire (3), made of a low Curie temperature and close to zero magnetostriction alloy. Also, wires (2) and (3) are made with the possibility to remotely induce electromagnetic pulses therein by applying a magnetic alternating field generated by a sinusoidal current (9), a device for exciting and reading (4) electromagnetic pulses induced by magnetization reversal of wires (2) and (3), to determine the size of the strain.

Claims: 4

Fig.: 5

