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Elastic moduli at high temperatures with two different ultrasonic methods

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"The elastic moduli and specially the shear modulus G is one of the parameters needed to implement the constitutive relations. These mechanical properties can be measured for a solid or a liquid with different ultrasonic methods. This paper deals with the determination of $G(T)$ with two different methods: a contact delay-line ultrasonic device which has been developed to measure the shear and compression waves velocities up to 1000K on cylindrical specimens and a contactless (laser) ultrasonic device which can measure surface acoustic waves velocities in metals up to the melting point. Results on metals such as Al without phase transition and for Co through the phase transition will be presented."