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STEP

AUTHOR: (8) Valuyev, N.I., Aspirant

TITLE: (6) Determination of elastic constants of ceramic metals at elevated temperatures

PERIODICAL: (15) Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, no. 7, 1962, 244-246

TEXT: The author describes the principle and the method of measuring the elasticity and shear moduli of various temperatures, ranging from 0 to 800°C, of four ceramic metals: TiC+20%Co, TiC+20%NiCr, TiC+40%NiCr, Cr_3C_2+15%Ni+2%C, and of steel ЭИ 347 (EI347). The measuring instrument "Elastomat" is employed to measure the frequency of natural vibration of the samples, energized mechanically (piezo-electrical system) or electromagnetically (electromagnetic system). Knowing the frequency of natural vibration and applying the usual formulas of the theory of elasticity, constants E and G are calculated and plotted. There are 3 figures.

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Determination of elastic ...

ASSOCIATION: Institut mashinovedeniya (Institute of the Science of Machines)

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