Abstract
Ultrasonic techniques give useful information on elastic properties of materials. The conventional contact methods for elastic properties measurements at high temperature have limitations because maintaining of piezoelectricity of transducer and providing couplant at high temperatures are not easy. Laser ultrasonics overcomes those problems. This study measured longitudinal ultrasonic velocities by generating ultrasound with Q-switched Nd:YAG pulse laser and receiving it with heterodyne interferometer. The experiment was performed with Si single crystal as a function of temperatures up to 1000 °C.

Keywords: Ultrasonic velocity measurement, Laser ultrasonics, High temperature