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## Monitoring of structural changes in materials under the exposure of ionization radiation using a vibrating wire

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Ionizing radiation (X-rays, proton beams) causes structural changes in materials. If a vibrating metallic wire is subjected to such radiation, the natural frequency of the wire is affected as a result of changes in the elastic characteristics of the material. This paper presents the results of experiments on the impact of X-ray radiation in the range of 100-165 keV and a proton beam with energy 18 MeV on the structure of stainless steel wire. In both cases, an irreversible change in the wire frequency was observed, which indicated residual changes in the structure of the wire material. X-ray diffractometry methods were used to analyse the structural changes.

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