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Title:Application of HCN-Laser to measure phase characteristics of 1D wire gratings

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Abstract:A new technique is suggested to measure phase shifts of electromagnetic wavestransmitted through a 1D wire grating in the case of normal incidence. To implement theproposed technique an HCN-laser was involved which instruments are widely used in the capacity of THz-range sources of radiation. The output mirror of the laser was represented by the grating to be investigated and a solid mirror with an aperture. Physically the technique is based on determining the difference length of the laser resonator in the course of lasing in turnat two polarizations with the polarization vector being oriented inparallel and perpendicular to the grating wires.

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