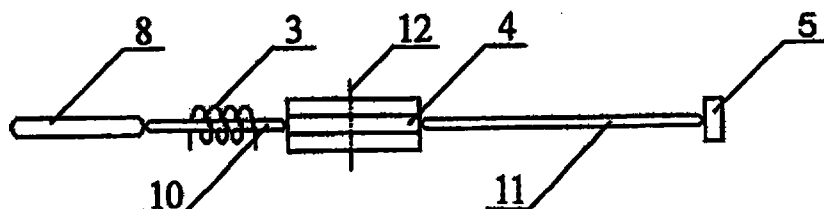




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(54) Title: DEVICE FOR MODULATION OF OPTICAL RADIATION AND TRANSMISSION OF INFORMATION



(57) Abstract

The invention allows to amplify Faraday effect and obtains a high level of modulation of optical radiation at very small amplitudes of modulating variable current. It provides a very high speed of modulation of optical radiation. It also gets an opportunity of reading the information with higher density of record. The modulator on the basis of magneto-optical Faraday effect contains optically connected: optical element (10) made from magneto-optical material with means (3) creating a variable magnetic field in it, a nonlinear-optical waveguide (4) and a separator of waves (5) having orthogonal polarizations. The possibility for rejection of atmosphere fluctuation and jamming is provided. The nonlinear-optical waveguide (4) can be made on the basis of a MQW-type structure. Input/output elements, taking into account the asymmetry of cross section of the nonlinear-optical waveguide are mounted at its input and output, making up a compact nonlinear-optic module. A small electrical current is injected across said nonlinear-optical waveguide through electrical contacts (12) so as to increase gain in modulation and decrease pump optical power in a high degree. The module contains also Peltier element and temperature sensor which help to obtain low predetermined critical power of optical radiation necessary for obtaining large modulation gain. The modulator on the basis of magneto-optical Kerr phenomenon contains an optical element reflecting optical radiation, with sites of various magnetization.