Light modulation by the use of bending effect

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Abstrak

An optical modulation by the use of bending effect developed from the effect of relative bending loss on optical fiber. The bending loss will decrease if the bending angle decreases. By varying the bending angle the bending loss will vary too. The modulation process obtained through this mechanism. The bending angle on optical fiber obtained from three mandrel laid on the loud-speaker; two mandrel on the frame and one on the cone of loud-speaker, while optical fiber laid between the mandrel. If current signal injected on coil loudspeaker, the coil will push the mandrel and then push optical fiber to form bending angle. The obtained 3 dB frequency response ranged from 28 Hz to 5714.3 Hz while the SNR and modulation index are 32.98 dB and 0.956 respectively. This modulator would be useable for single channel instrumentation and control links.