

## **FREQUENCY CONVERSION OF COHERENT IMAGES ON INTRACAVITY MULTIWAVE MIXING**

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### **ABSTRACT**

The schemes for recording and reading of dynamic holograms in conditions of nondegenerate four- and six-wave mixing in a nonlinear Fabry-Perot interferometer have been analyzed theoretically. It has been demonstrated that there is a possibility for a considerable improvement in the diffraction efficiency and angular selectivity of dynamic gratings in the interferometer compared to the off-cavity interaction. A method for the frequency conversion of coherent images with simultaneous phase conjugation has been realized experimentally.

**Keywords:** Dynamic Holography, Frequency Conversion of Images, Nondegenerate Multiwave Mixing, Nonlinear Interferometer..