

VII. OPTICAL AND INFRARED MASERS

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RESEARCH OBJECTIVES

Plans for an extensive research project are under way to develop and utilize masers in the infrared and optical regions with various physical experiments as ultimate goals. The work will require considerable study of the characteristics of maser oscillators, development of new types of high-frequency masers, and perfection of existing types of masers.

Some of the other areas in which work is planned are:

1. Nonlinear effects at optical and infrared frequencies;
2. Experiments on length and time of very high precision;
3. Far infrared spectroscopy of high resolution;
4. High-resolution Raman spectroscopy.

Although it is hoped that substantial steps in this program can be made during the coming year, appropriate exploitation of each of the areas listed above represents a sizable research effort, and work is expected to continue in at least some of these directions over a considerable period of time.

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