



Fig. 6 — The Gekko-12 beam glass laser at the Institute for Laser Engineering, Osaka University.

radiation at high temperatures, to perform experiments in the field of radiation hydrodynamics in the laboratory and to generate in a controlled manner very high pressures by exposing a specimen to the very uniform and intense radiation in a cavity. «Astrophysics in the laboratory» is a good characterization of the direction of this new field.

The most ambitious technical application is the production of electric power by inertial confinement fusion. The principle is to implode and ignite a fusion capsule by exposing it to the intense radiation in a cavity. A large laser built for fusion research at Osaka University⁴⁾ is shown in Fig. 6. However, even if ignition could be demonstrated in the next decade, the need to construct power sources with adequate efficiency would probably postpone economic power production into the next century. Unfortunately the research programmes in several countries are secret being primarily directed towards more immediate potential military applications. Inertial confinement fusion is thus another example of how the results of modern science can serve or harm mankind.

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