Giant laser system is under construction

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The world's largest laser system -- the National Ignition Facility -- is being built in California and officials say it will go online next year.

Physicists at the Lawrence Livermore National Laboratory say the facility will have 192 lasers generating millions of joules of infrared light, which will be converted to ultraviolet light.

In a facility the size of three football fields, the light will go through a tiny hole into a target shaped like a soda can, but less than 1 inch in height. There, scientists said, the light will heat the inside metal walls, causing them to emit X-rays that will fill the can, bombard a small plastic capsule in the can's center, implode the capsule, and trigger the fusion of tritium and deuterium inside.

Lead researcher Christopher Haynam said about three-quarters of the lasers have been installed. If it works as it is supposed to, he said the facility will be able to achieve temperatures and pressures that emulate conditions in the interior of planets and stars.

Haynam will report on the project next month in San Jose, Calif., during the 2008 Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference.