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IGNITOR, ITER and NIF in the Context of the World Effort on Fusion Burning Plasmas[1] E. AZIZOV, KI (Ru), B. COPPI, MIT, E. VELIKHOV, KI (Ru) — As of last summer, the ITER program has been recognized as being directed at providing an "International Platform for Fusion Technology." Then, the two experimental programs that have the explicit goal to approach ignition conditions with D-T plasmas are NIF and IGNITOR. NIF, the National Ignition Facility, is based on the inertial confinement principle using a laser system capable of delivering 1.6 MJ and is being operated in Livermore. IGNITOR will be operated by the Kurchatov Institute within the research center of Troitzk presently owned by Rosatom and involves a high level collaboration between Italy and Russia. For this, Ignitor has been defined as a Flagship Project by Italy and the construction of its core has been funded. The Ignitor design is based on the experimental results obtained by the high field line of experiments carried out at MIT, within the Alcator Program, and in Italy within the Frascati Torus Program. A wide set of experiments in Japan, on high density plasmas, in the US, Russia and Europe have produced plasma physics results and technology developments that have guided the evolution of the Ignitor design. The main theoretical plasma physics issues to be dealt with in connection with this program are discussed.

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