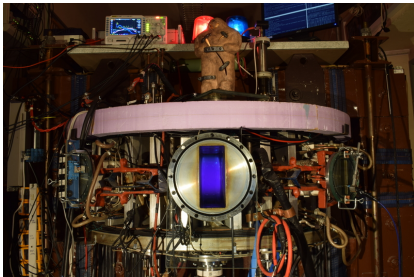


The GOLEM tokamak basic characteristics

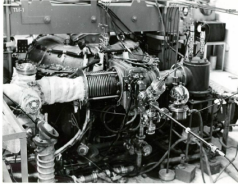
The grandfather of all tokamaks (ITER newslines 06/18)



- Vessel major radius: $R_0 = 0.4$ m
- Vessel minor radius: $r_0 = 0.1$ m
- Plasma minor radius: $a \approx 0.06$ m
- Toroidal magnetic field: $B_t < 0.5$ T
- Plasma current: $I_p < 8$ kA
- Electron density:
 $n_e \approx 0.2 - 3 \times 10^{19} \text{ m}^{-3}$
- Effective ion charge: $Z_{eff} \approx 2.5$
- Electron temperature: $T_e < 100$ eV
- Ion temperature: $T_i < 50$ eV
- Discharge duration: $\tau_p < 25$ ms
- (Electron) energy confinement time:
 $\tau_e \approx 50$ us

The GOLEM tokamak for education - historical background

Kurchatov Institute near Moscow,
Soviet Union
1960: **TM1-MH**



1974

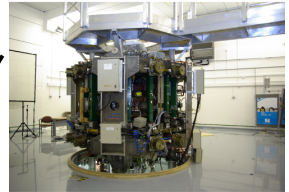


Institute of Plasma Physics
Czech republic
CASTOR **COMPASS**

2006



Culham Centre for Fusion Energy
Great Britain
1989: **COMPASS-D**



2008



Czech Technical University Prague
Czech republic
GOLEM



GOLEM

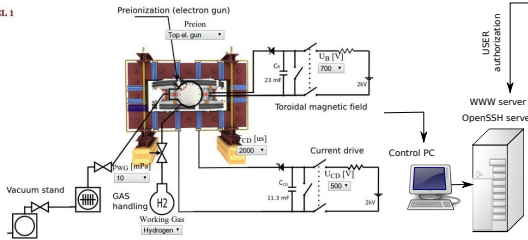


The new location of the tokamak is just next to the old Prague Jewish cemetery where Rabi Loew (Golem builder) is buried, and that is why it was renamed GOLEM (and also for the symbol of potential power you get if you know the magic). Interestingly, here in Prague, where the Golem legend originated, Golem is not perceived as a symbol of evil, but rather as a symbol of power which might be useful but is very challenging to handle. To learn more of the Golem legend, see e.g. [wikipedia](#).

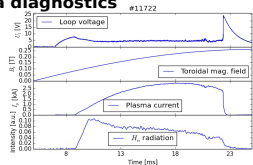
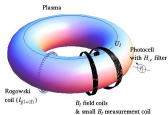
The global schematic overview of the GOLEM experiment

LEVEL 1

Tokamak technology setup



Basic plasma diagnostics

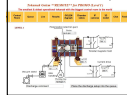


internet

**Virtual control room
(remote participation)**

WWW control interface

HTML & PHP scripts



SSH control interface

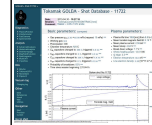
WINDOWS via putty



LINUX via ssh
or ssh+X tunnel
(advanced mode)

Data presentation

HTML (www pages)



Data handling

- *wget
- *gnuplot
- *idl
- *mathematica
- *matlab
- *etc...