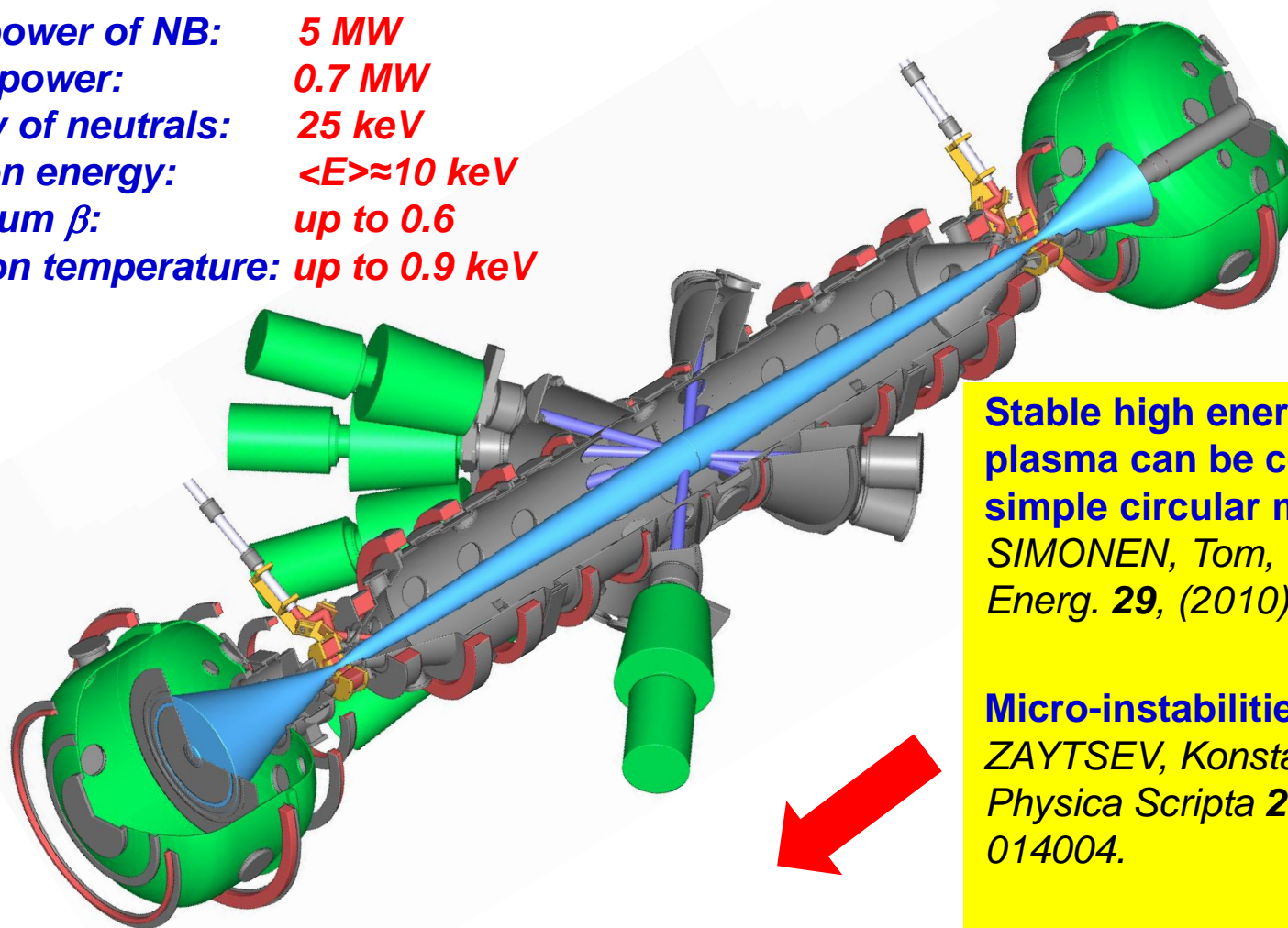


The GDT device is an experimental facility for studies on the main issues of development of nuclear fusion systems based on axisymmetric mirror traps

Key parameters of the GDT device and confined plasma:

Total power of NB: 5 MW
ECRH power: 0.7 MW
Energy of neutrals: 25 keV
Fast ion energy: $\langle E \rangle \approx 10$ keV
Maximum β : up to 0.6
Electron temperature: up to 0.9 keV



Stable high energy density plasma can be confined with simple circular magnets:

SIMONEN, Tom, et al., *J. Fusion Energ.* **29**, (2010) 558.

Micro-instabilities can be tamed:

ZAYTSEV, Konstantin, et al., *Physica Scripta* **2014**, (2014) 014004.

Electron temperatures reaching a keV have been measured:

BAGRYANSKY, Peter, et al., *PRL* **114**, (2015) 205001.

These three accomplishments provide a basis to reconsider the mirror concept as a neutron source for materials development, nuclear fuel production, and fusion energy production.