



UNIVERSITÀ DI PISA

INGEGNERIA DEI REATTORI A FUSIONE

DONATO AQUARO

Anno accademico	2017/18
CdS	INGEGNERIA NUCLEARE
Codice	417II
CFU	6

Moduli	Settore/i	Tipo	Ore	Docente/i
INGEGNERIA DEI REATTORI NUCLEARI A FUSIONE	ING-IND/19	LEZIONI	60	DONATO AQUARO GUGLIELMO LOMONACO DANIELE MARTELLI

Programma (contenuti dell'insegnamento)

The course covers the following topics:

- Main fusion reactions and their cross sections
- Plasma characteristics, its magnetic confinement, the toroidal closed configurations
- Main components of a magnetic confined nuclear fusion reactor (magnets, superconductors, vacuum vessel, shielding, blanket, first wall, divertor, vacuum systems, waste elimination system and tritium injection)
- Other types of nuclear fusion: "inertial fusion", "muonic fusion", etc.
- Hybrid reactors and their application to the nuclear fuel cycle closure

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