HOW TO BE COOL LIKE JAMES BOND

The game is FUSION...
NUCLEAR FUSION
Introduction: what is a TOKAMAK?

JET. Image from Eurofusion
Introduction to what is a TOKAMAK.

DIVERTOR, Power & Particle Exhaust.

Image from Eurofusion.
Introduction:

What is a TOKAMAK?

HOT ENOUGH TO MELT TUNGSTEN!

B. Lipschultz et al. 2012

DIVERTOR Power & Particle Exhaust

JET. Image from Eurofusion
The game is METALS...
LIQUID METALS

HOW TO BE COOL LIKE JAMES BOND

The game is METALS...
LIQUID METALS
CONFLICTING INTEREST!

Heat Transfer → Thermal stresses

Ion flux → Erosion

Heat Transfer → Sputtering

COOLING WATER
Future work:
Fuel deposition in liquid lithium
Integrated design study for DEMO LL divertor
  – Peter Rindt & Supervisor Niek Lopes Cardozo

Student Projects:
3D printed tungsten LL divertor
  – Jaume Mata
Liquid properties of Li-LiH mixtures
  – Mathijn Bernards
Simulation of lithium neutral and ion species in B2.5-Eunomia
  – Ray Chandra
  – Mike Machielsen

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