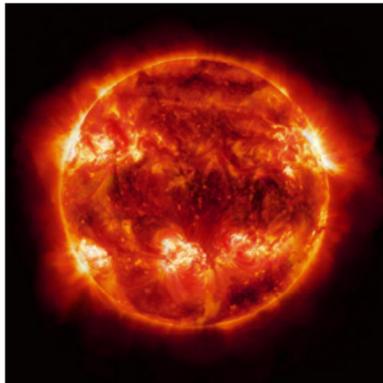


Effet thermoélectrique à l'interface Gallium-Mercure

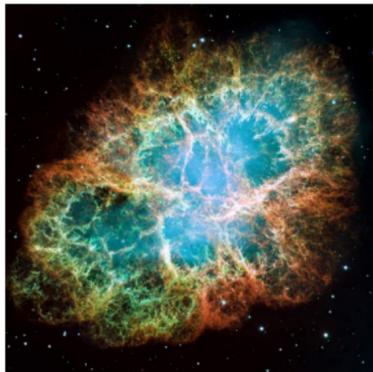


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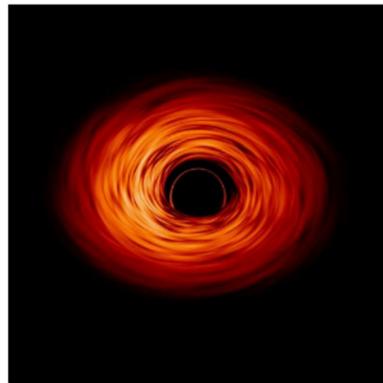
marlone.vernet@u-paris.fr



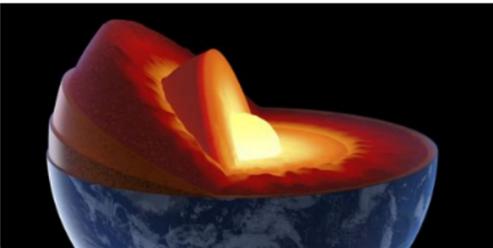
Sun [irfu.cea]



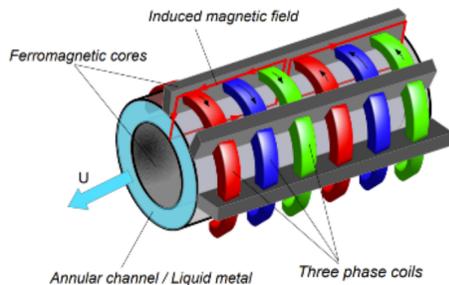
Nebula [Nasa.gov]



Accretion disk [Nasa.gov]



Earth interior [Huffingtonpost.com]



Electromagnetic pump [Gissinger et al., 2016]



Kepler experiment [Vernet et al., 2021]

Navier-Stokes:

$$\rho \partial_t u + \rho u \cdot \nabla u = -\nabla p + \rho \nu \nabla^2 u +$$

$$\underbrace{j \times B}_{\text{Force de Laplace}}$$

Force de Laplace

Induction

$$\partial_t B \neq 0$$

Injection de courant

$$B_0 = Cste$$

$$j_0 = Cste$$

$$force = j_0 \times B_0$$

99% de la matière connue dans l'univers est sous forme plasma

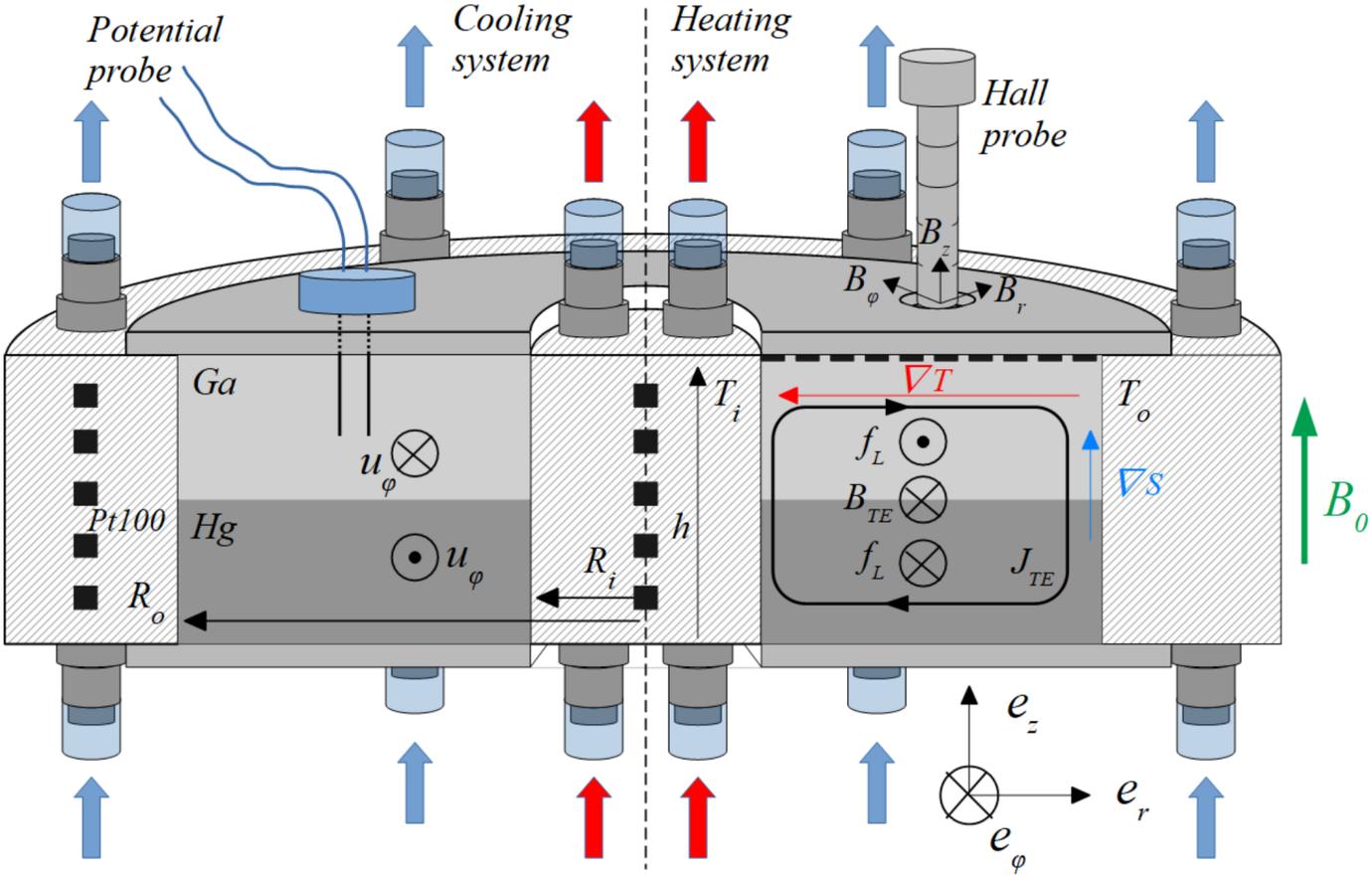
Que se passe-t-il en présence de flux de chaleur ?

Effet thermoélectrique à l'interface Gallium-Mercure

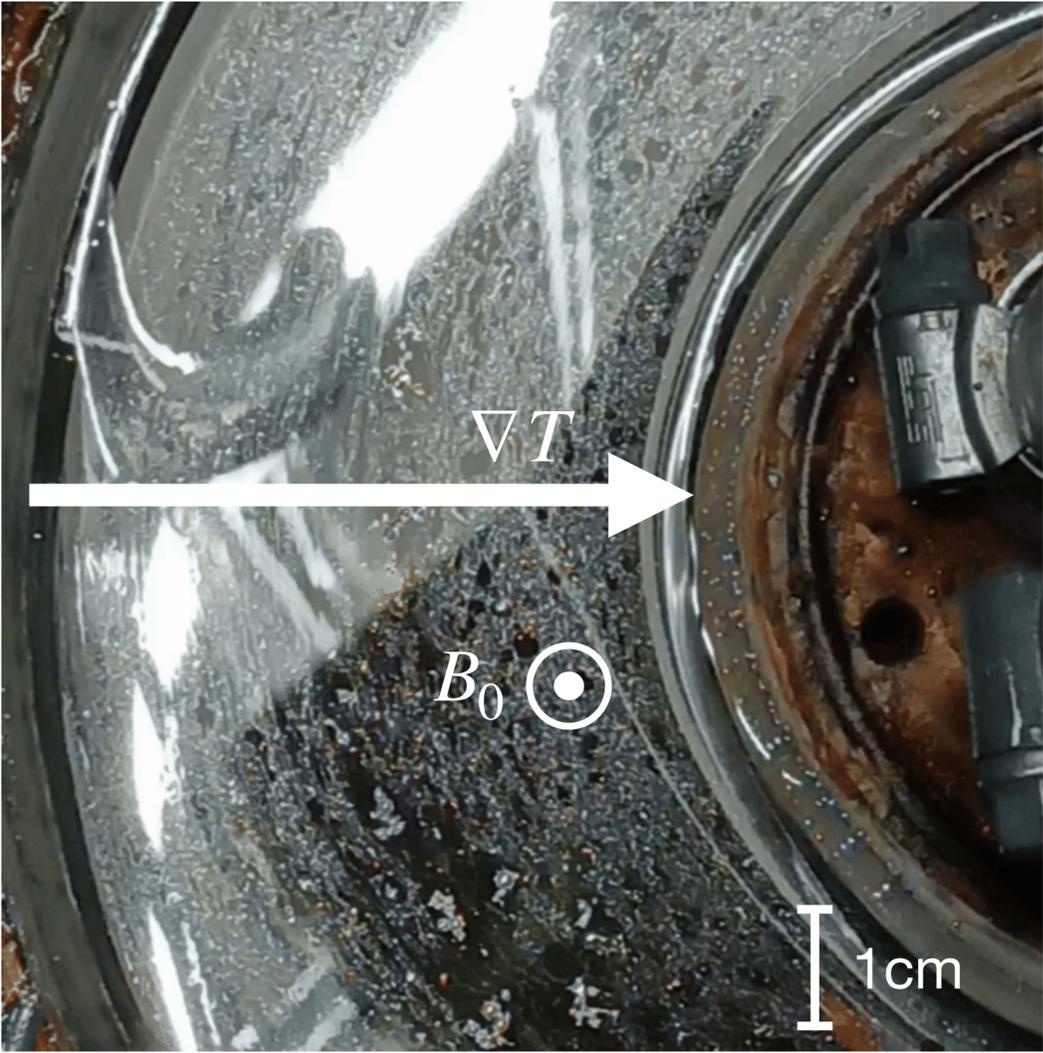


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Dispositif expérimental GALLIMERT



Vue du dessus

$$B_0 \sim 40 \text{ mT}$$

$$\Delta T \sim 37 \text{ K}$$