

Simplest magnetic propulsion experiment

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1 Basic scheme

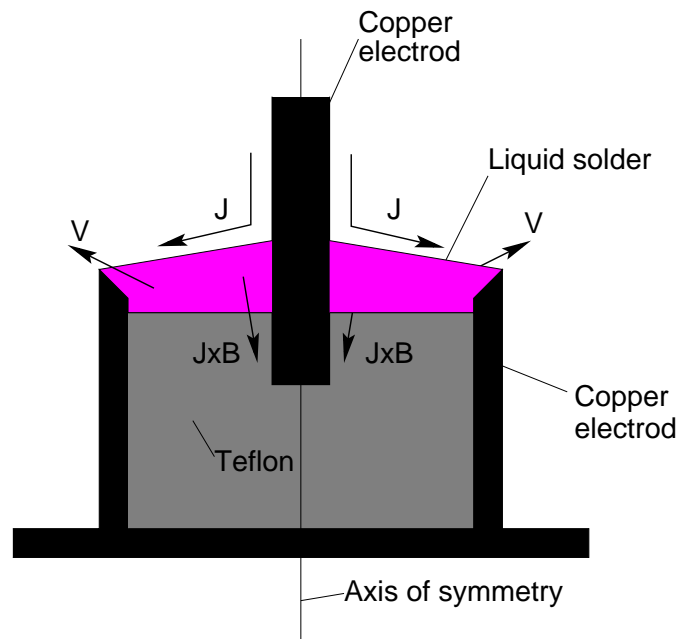


Fig.1. Cross-section of a propulsion cell

Fig.1 shows a cylindrical copper electrode embedded into liquid metal, thus, making electric contact with an external copper cylinder. Electric current from an external source creates a magnetic field, which produces an inhomogeneous pressure in the fluid. The pressure is larger near the axis of symmetry.

Inhomogeneous pressure expels the metal in the radial direction.

2 Propulsion demonstration experiment

In an actual experiment a propulsion cell (with external cylinder of 6 mm in diameter and 5 mm in height and with a central electrode 1.6 mm in diameter) has been soldered into the secondary loop (16 turns, 7x1.6mm, connected in parallel) of a 2.8 kW autotransformer. The metal in the cell has been melted with a gas torch.

With primary loop turned on, the current in the secondary loop (expected as 1-3 kA) expels the metal from the cell with no evident arc near the central electrode in the cell.

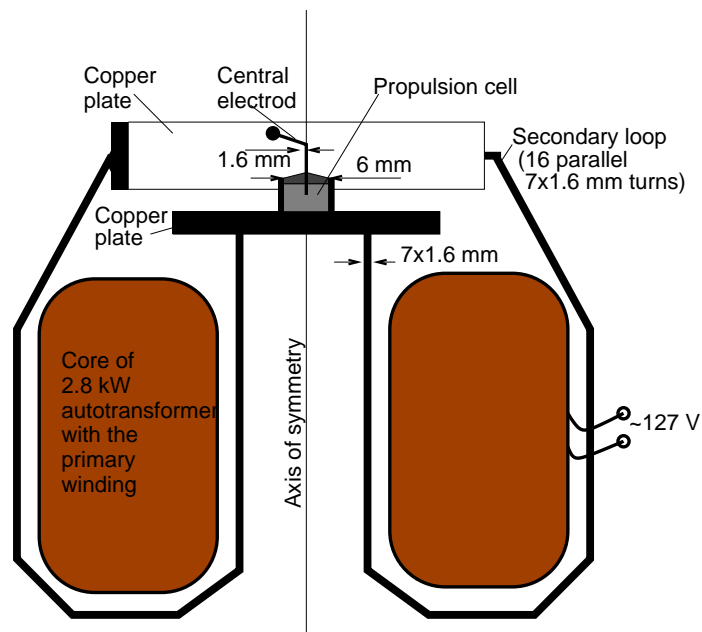


Fig.2. Scheme of a propulsion demonstration experiment