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EXPERIMENTAL VERIFICATION OF THE CAPACITY OF GENERATING MAGNETISM BY ROTATION OF INCANDESCENT SOLID.

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Animation

Abstract: A recent scientific publication suggested that geomagnetism has its origins in the inner solid core rotation [1], as shown in **Figure 1**. This idea is different from the self-excited geodynamo conjecture. This work suggests a way to test if a rotating and incandescent solid body can create magnetic fields and under what conditions. At first, a mathematical analysis looked at the materials and experimental conditions that could be used with low resources. The following materials were identified for the purpose of the experiment: steel, graphite, and tungsten. There were two speeds considered: 1,600 rpm for a common lathe and 9,000 rpm for a bench top wood planer. The two temperatures considered viable were 1350 °C for steel and 2500 ºC for graphite and tungsten. There were two dimensions considered for the rotating part: 50 and 250 mm in diameter and 500 mm in length. In **Figure 2**, the proposed test circuit is shown. **Figure 3** shows the expected result for 50 mm graphite. A double coil of copper wires was constructed to represent the incandescent rotating graphite cylinder, as shown in **Figure 4**, applying 1 A of dc using a USB charger. **Figure 5** shows how the coil magnetism changed from 15 to 15 µm.

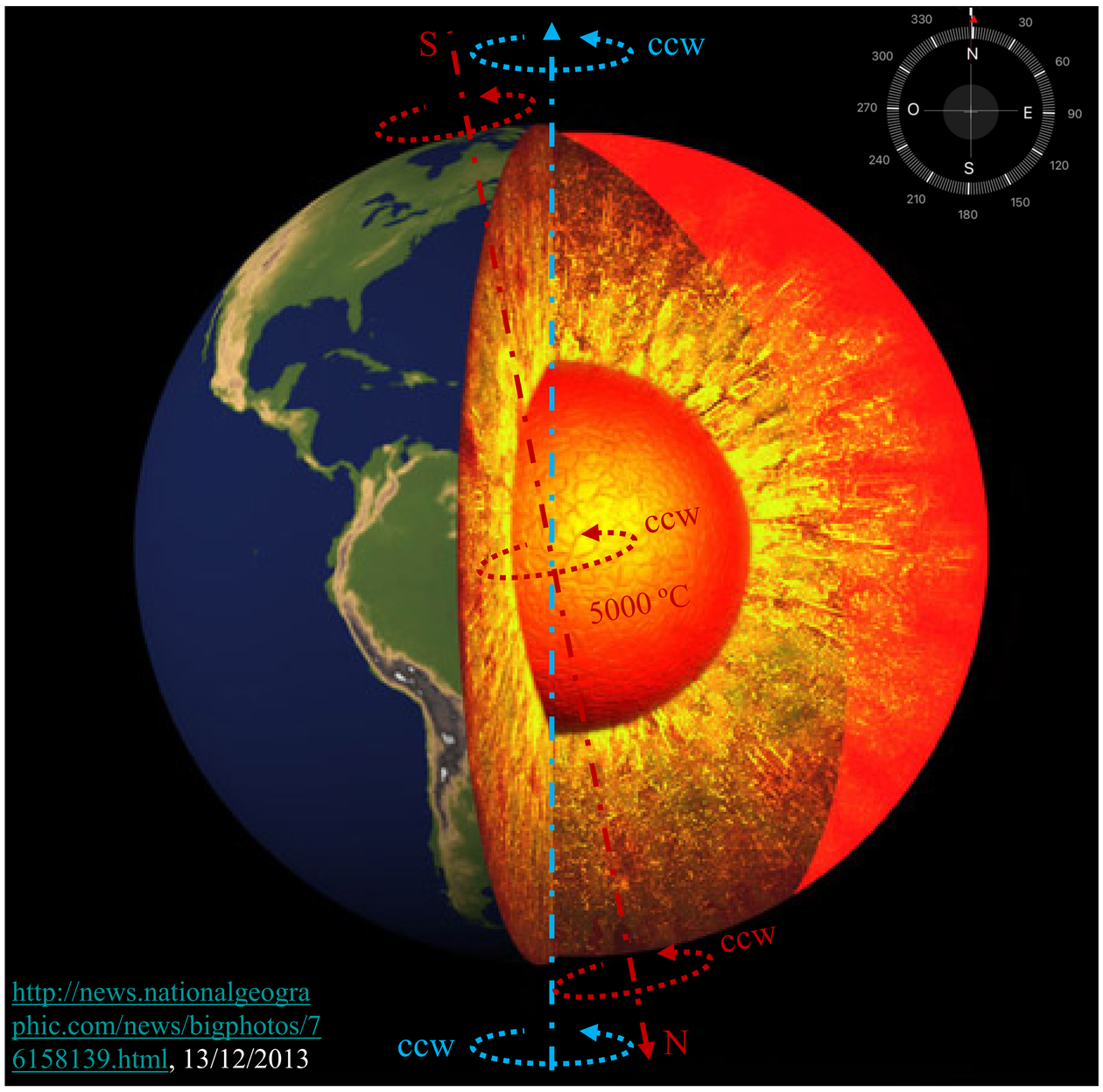

Figure 1 - Geomagnetism Has Its Origins In The Inner Solid Core Rotation

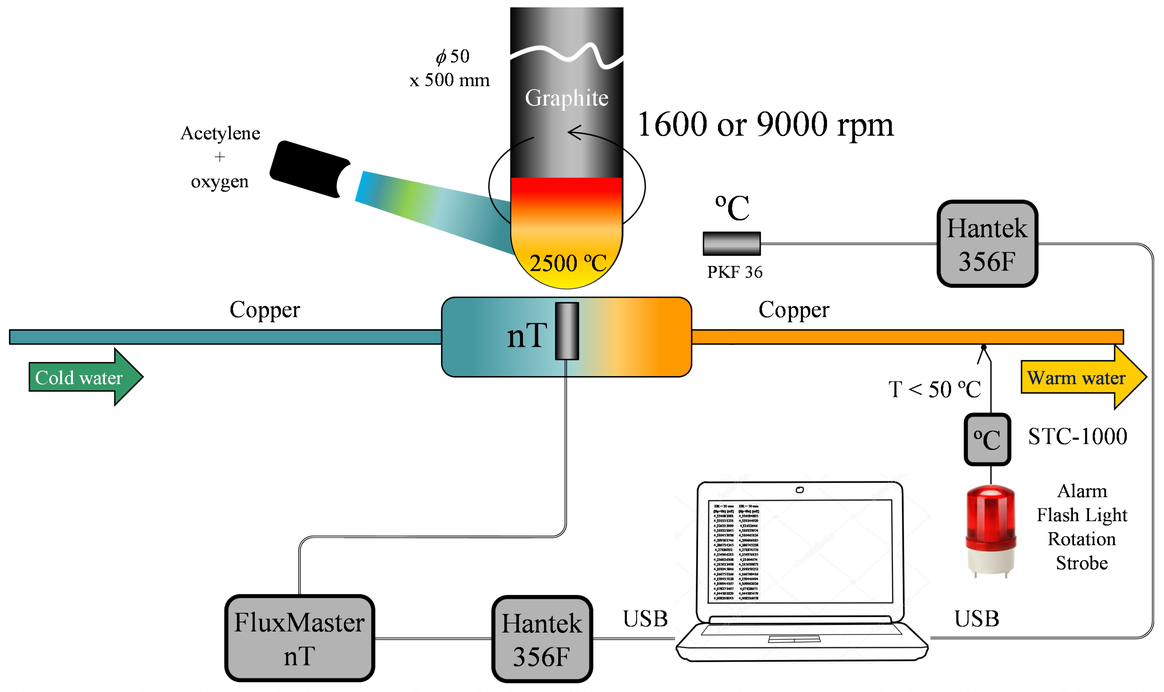

Figure 2 - An Experimental Diagram to Identify the Ability of an Incandescent Solid Body to Generate Magnetism.

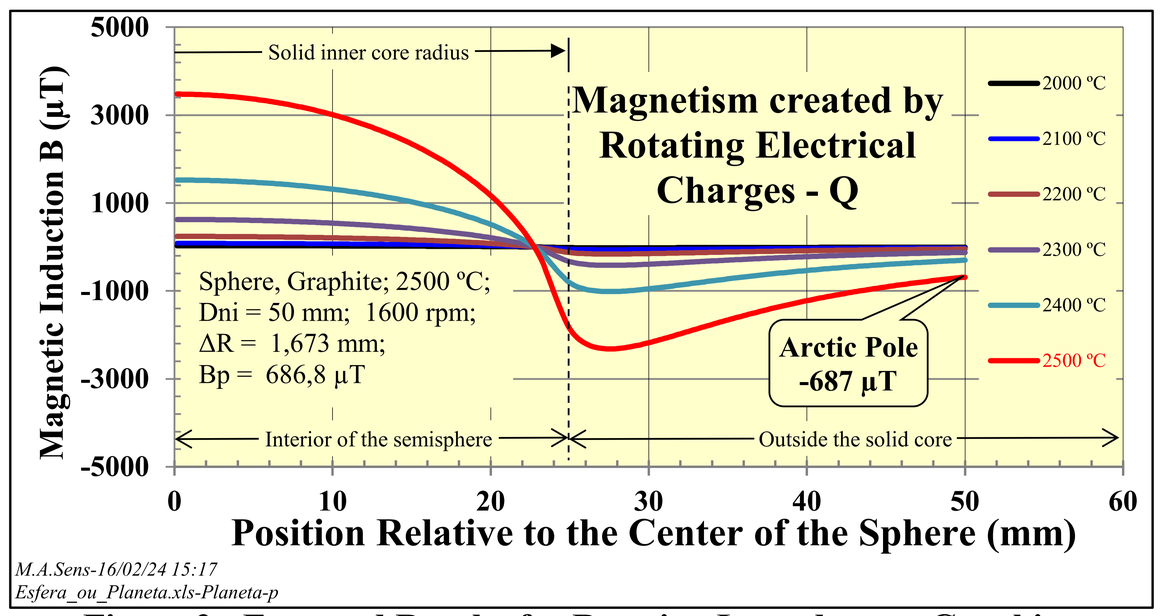

Figure 3 - Expected Results for Rotating Incandescent Graphite.

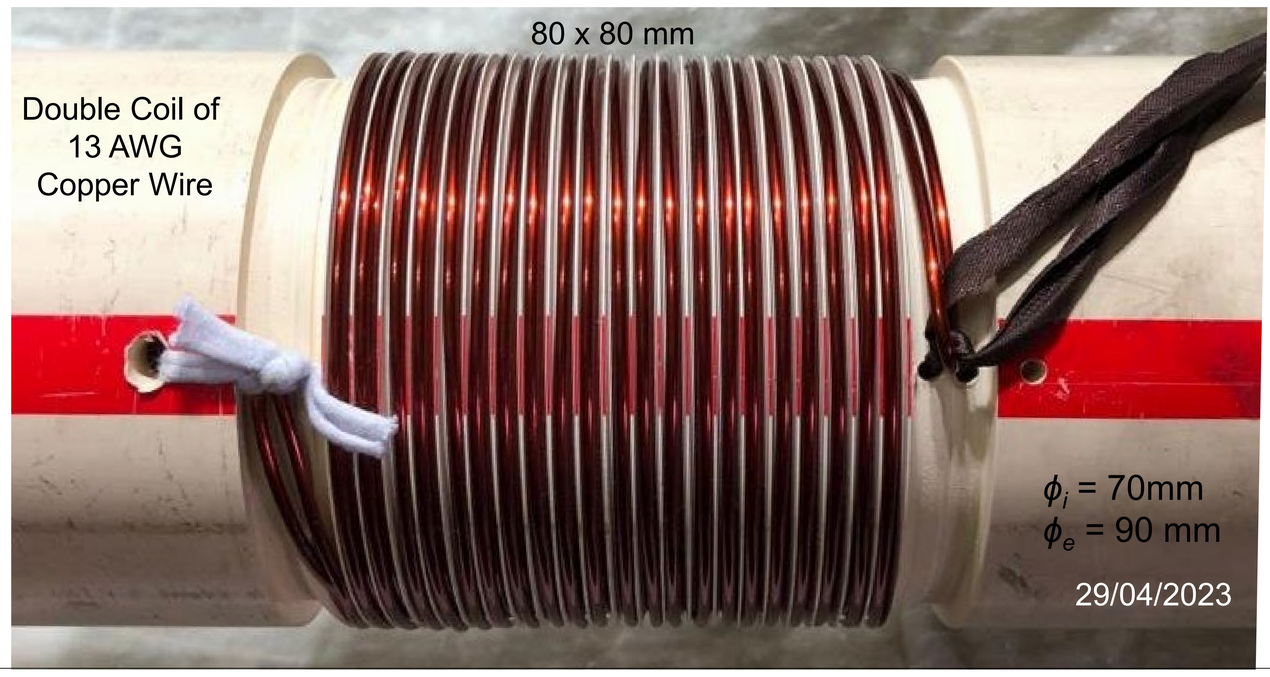

Figure 4 - The Double Coil Represents the Incandescent Graphite Cylinder.

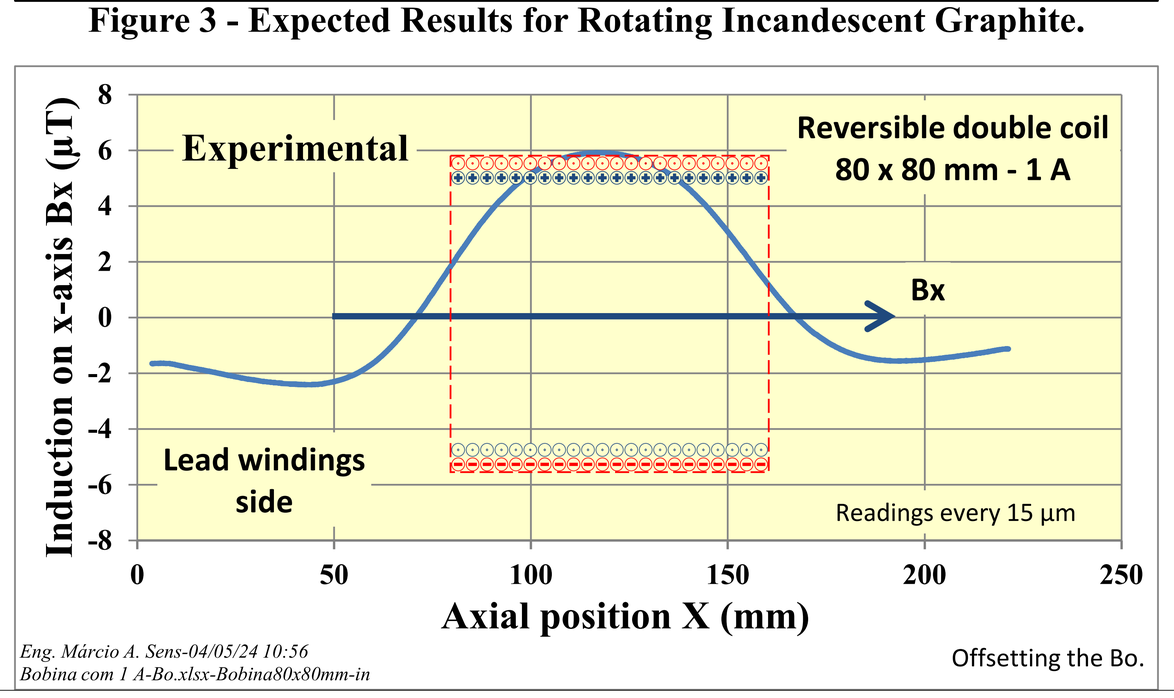

Figure 5 - Magnetism Measured at the Center of the Coil

Reference: [1] – Sens, M. A., "A New Hypothesis to Fully Justify the Generation, Maintenance, and Behavior Of Geomagnetism"; 2023, Journal of Engineering Research, v.3/n.38 (ISSN 2764-1317).