

Project – What is Interesting?

Magnetohydrodynamics is the subject of “fluids” that conduct electricity and its magnetic components. The fundamental concept behind this study is that the magnetic fields can induce currents in and consequently polarize plasma, salt water, or liquid metals, changing the magnetic fields itself. One of the earliest experiments with fluids was done by the father of the electric field himself: Michael Faraday. This experiment was on the salt water and its potential difference from its interaction with the Earth’s magnetic field.

The interest is driven by solar observations made by a solar telescope, with fascinations in the activities of the solar corona (haven for plasma). Also, a hobby is stagecraft, which is scenic designs and forming the structures of a theatrical production. Stagecraft hands me the privilege to be skilled in utilizing a plasma cutter to twist-and-turn unique “artworks” and set-pieces. The scientific papers and reviews read are mostly laboratory practices and applications used to test plasma and its electrical and magnetic aspects to observe whether the experiments can be produced by a low-budget college student.

Currently, I am reading up on the Magnetohydrodynamics of the Sun by author Eric Priest, which illustrates the magnetic field of the sun and details the effects it has on the Earth.

References

Basov N G 1976 Neutral Current Sheets in Plasma

Courtois C, Dendy R O and Woolsey N C 2004 Laboratory plasma astrophysics simulation experiment using lasers

Hess W N 1964 AAS-NASA Symposium on the Physics of Solar Flares

Koepke M E 2008 Interrelated laboratory and space plasma experiment

Priest, Eric R. Magnetohydrodynamics of the Sun. Cambridge Univ. Press, 2014.