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Project Problem – Continuing your annotated bibliography

The definition of "Magnetohydrodynamics" from "MHD modeling of the interaction between the solar wind and solar system objects" by Ekenbäck and Holmström, is that magnetohydrodynamics is the description of the average properties of a plasma by using the basic conservation laws for a fluid. This takes into account that plasma is conducting, so the effects of electric and magnetic fields and currents are added to ordinary hydrodynamics, therefore, making it magneto.

How the phenomenon of magnetohydrodynamics works is kinematic relationships between plasma and fluids. Without a number of assumptions from position, densities, velocities of the fluid, magnetic fields, vacuum accountability, plasma pressure, internal energy, and external forces such as gravity, there would be no validation for most simulations of magnetohydrodynamic models.

Systematically, the ways that the models are used to understand the magnetohydrodynamics content of solar winds is by vector fields. The vector fields utilized by the 2004 study is that velocity shifted right while magnetic field vectors centrally shift right then diverge in either sides of the y-axis. The demonstration of the simulation is to present the effects of the magnetic properties of solar wind from a plasma-entity with a solidified comet.

The meaning of "Magnetohydrodynamics" from "Magnetohydrodynamic modeling of the global solar corona" by Lionello, Mikić, Schnack, and Tarditi, is that it is a tool utilized for the exploitation of direct comparisons between observations and scientific models of the solar corona.

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Significantly, magnetic reconnection is the strong evidence to conduction of plasma. The coronal magnetic reconnection not only defines the structure of the solar corona, but the position of the heliospheric current sheet, and the regions of fast and slow solar winds.

With that, the models utilized to understand the solar corona are the observational photos and the implanted field lines on a three-dimensional model and the heliospheric current sheets. These improved magnetohydrodynamics models confronts the limitations of the polytropic models. Polytropic models are graphical representations of radius of observed star to its dependence on density. Precisely, what links the phenomena in the solar wind back to their origin in the solar corona is the measurement established from probes' observations, which in this case is Ulysses.

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References

Ekenbäck A, Holmström M 2004 MHD modeling of the interaction between the solar wind and solar system objects

Lionello R, Liner J, Mikić Z, Schnack D, Tarditi A 1999 Magnetohydrodynamic modeling of the global solar corona