Building your paper I

These researchers span three decades, building upon each other from a shift of observation to advances in modeling. Gnerally, what is asked by these studies are what will the observation of the plasma in the Sun produce as a model. In turn, this will answer where the energy of the corona is located to heat the plasm. That is where the dissipation of magnetic currents could root out the answers.

When it comes to addressing magnetohydrodynamics, the Max-Planck-Institut discovered that the coronal loops examined are heated predominantly by Ohmic heating, which is induced by the braiding of field lines through the photospheric motions. Additively, the research from the NASA Astrophysics Data System focused on the footprints of the magnetic loops in the corona that determines the speed of the downflow from its expanding loops. Contrary, the Swedish Institute of Space Physics focuses on the interaction between the solar wind and solar system objects and its ejections. The Science Applications International Corporation takes in the observations of the coronal structure and three-dimensional magnetohydrodynamic model, which would direct these other studies. Overall, what taken into my study was the agreement goes to the deliver of sufficient amount of energy at the base of the corona to heat the plasma based on the magnetic flow of the Sun, expelling solar flares.

Generally, what was fascinating was the modelling utilized to elevate beyond observations. Focusing on the study done in Germany, three-dimensional model is not enough to resolve the dissipation length scales done with precision, but it provides the redistribution of energy. What I learnt that it is not necessary to obscrue sunspots though, but utilizing x-ray imaging from telescopes, hot loops can be seen by its connection of two extended regions showing opposite polarity. Theresfore, there is a strong magnetic field in the Sun. This objective places my concentration of three-dimensional modeling to the topic of solar magnetohydrodynamics. It shifted far from 1992's study done by the American Astronomical Society by non-linear 2.5D simulation. This model was the inclusion of three-dimensional vector components without its variation. Also, it advanced beyond kinematic-oriented work done by 1998's study in California on coronal holes.

Regardless, these two studies has increased sophistication since the idealized models. What intrigued me is the scale of the polytropic model that requires the interaction of forces by plasma, magnets, and solar gravity. What this adds in the German study is a self-consistent description of the thermal structure of the plasma and of the magnetic field in the coronal structure. All the model had to do was include heat conduction by gravitational force which hwas done. Specialized, the Swedish studied the interaction of solar winds to solar system objects. This study utilized Flash Code. Essentially, Flash Code is a software with modules that mesh hydrodynamic code to model astrophysical thermonuclear flashes. This method is used to scale magnetohydrodynamic aspects on a smaller scale which is fundamental to classify plasma overall.

To conclude this summarization, what I picked up from the studies is the processes of modeling to identify the global magnetic stucutre of the Sun. Predictively, for the future studies done on the corona would reproduce the magnetic connections if this magnetosphere still loops. Problematically, what I look forward to is studying the Flash Code and what I still question is what observational methods can be done to study the coronal loops that done in this year's modeling with advancements in telescopes and coding.

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