Abstract Submitted
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On self-organization of the solar magnetic fields[1] THOMAS JARBOE[2], THOMAS BENEDETT, KYLE MORGAN, University of Washington
— Recent advances in self-organization effects of magnetized plasma are shown to have a powerful effect in the Sun. The resulting model consists of a thin, magnetic equilibrium covering most of the solar surface below the photosphere, within the supergranules. The equilibrium is reshaped and reorganized on an 11-year half-cycle perhaps due to resistive diffusion. The thinness of the equilibrium makes the solar dynamo powerful enough to also fuel other solar phenomena, such as the chromosphere, the corona, the solar wind, and the current in the solar current sheet. It also explains the 180 degree flipping of the magnetic fields and the pattern of the radial magnetic field in the solar cycle, the flipping of the polar magnetic flux, the nature of sunspots and CMEs, the differences of the corona during solar minimum compared to solar maximum, the amplitude of torsional oscillations, the nature of supergranules and the plasma structure in solar prominences.

[1]US DOE
[2]Place in section 2.5 next to John OBryan

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