

Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

On the selforganization of a kind of field and highly diluted matter in astrophysics DANIEL BERDICHEVSKY, Independent Scholar — It is explored the self organization of matter and field in regions beyond our common reach on the surface of our planet and its atmospheric surroundings. This state of matter, which most basic property, the freezing in the magnetic field, see e.g., Chew et al, 1956, has proved to exist in the regions where robotic observations in the near and far space perform detailed observations of magnetic fields, and extreme dilute plasma (commonly about 1000 to 0.1 or less ionized particles per cubic cm). We present and discuss here simple hypotheses on the nature of what appears to be substantial amount of matter covering very large amount of space and capable of possibly self organization, with the help of very strong magnetic fields, in the ways we explored resently in Berdichevsky and Shefers, 2015s. This work is in many ways an extension of Alfvén work on magnetized space plasmas, Alfvén, 1942. We, like at his moment Alfvén himself, are confronted with the difficult limitations of not being able to do the study in a laboratory where ideally is possible to control the initial conditions of the problem. Chew, G.F., M.L., Goldberger, and F.E. Low, 1956, the Royal Soc. London, section Math & Phys Sc., 236, pp. 112. Alfvén, H (1942). “Existence of electromagnetic-hydrodynamic waves.” *Nature* **150**: 405.. [doi:10.1038/150405d0](https://doi.org/10.1038/150405d0) Berdichevsky, D.B., and K., Schefers, ApJ, 803, 70, 2015, doi: [10.1088/0004-637X/805/1/70](https://doi.org/10.1088/0004-637X/805/1/70)

Daniel Berdichevsky
Independent Scholar

Date submitted: 03 Aug 2015

Electronic form version 1.4