

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

On a few global properties of (a MHD) interstellar medium and its impact on the solar wind DANIEL BERDICHEVSKY¹, BERDICHEVSKY, DANIEL B — We present quantitative results on the possibility that the Solar Wind and the local molecular nebula (LMN) achieve dynamic equilibrium. We require equilibrium between the pressure exerted by the Solar Wind and the reaction to it of the LMN, assumed to have a magneto-matter nature. We assume the MLN having: (i) a simple homogeneous distribution of matter coalescent to a magnetic field in a cylindrical geometry (Berdichevsky, 2016), (ii) the in-situ by Voyager observed properties (a fraction of 9/10 neutrals and 1/10 ionized matter, with a number $N_e \sim 0.1$ of free electrons, and a $\langle \mathbf{B} \rangle \sim 0.5$ nT). Additional consideration is given to the needed permeability of the medium to make it capable of supporting stresses related to its state. The assumed state of self organization of matter and magnetic field (magneto-matter state) has proven useful interpretation of anomalous thermodynamic of the gas of electrons contained in flux-tubes with a twist, low-beta, often observed at 1 AU in the interplanetary medium, Berdichevsky and Shefers, 2015. Berdichevsky, D.B., APS Spring Meeting, 2016; Berdichevsky, D.B., and K., Schefers, ApJ, 803, 70, 2015, doi: 10.1088/0004-637X/805/1/70

¹Independent Scholar

Daniel Berdichevsky
None

Date submitted: 29 Sep 2016

Electronic form version 1.4