List of symbols and significances

S No	Symbol	Significance
1	M_Θ, R_Θ, g_Θ, L_Θ	Solar mass, solar radius, solar self-gravity and solar luminosity; respectively
2	ω_{ce}, ω_{ci}, r_{ge}, r_{gi}	Electron cyclotron frequency, ion cyclotron frequency, electron gyro-radius and ion gyro-radius; respectively
3	n_e, n_i, v_e, v_i,	Unnormalized electron and ion number densities, electron and ion flow velocities; respectively
4	N_e, N_i, M_e, M_i	Normalized electron and ion number densities, electron and ion Mach numbers; respectively
5	λ_{De}, ξ, τ	Electron plasma Debye length, normalized space and time coordinates; respectively
6	λ_J, ω_J, ω_J^{-1}	Jeans scale length, Jeans frequency and Jeans time; respectively
7	ϕ, ψ	Unnormalized electro-gravitational potentials; respectively
8	Φ (or, θ)	Normalized electrostatic potential
9	Ψ (or, η)	Normalized self-gravitational potential
10	T_e, T_i	Electron and ion temperature; respectively
11	c_s, M_{i0}	Ion sound phase speed and ion Mach number; respectively
12	σ, $\in_T \left(= \sigma^{-1}\right)$	Electron-to-ion temperature ratio and its inverse; respectively
13	N_s, M_s, P_s	Normalized population density, flow velocity and thermal pressure of the sth species (s=electrons, =ions, =charged dust)
14	μ	Normalized referral frame velocity
15	$\in_0$, μ_0	Permittivity and permeability of free space; respectively
16	g_s, ρ_Θ	Normalized solar self-gravity and mean solar material density; respectively
17	$q_{e(i)}$	Non-thermal entropic index of electrons (ions)
18	J	Normalized net electric current density

19	α, γ	*Polytropic and adiabatic indices; respectively*
20	ω_r, ω_i, k	*Unnormalized real frequency, imaginary frequency and wave number; respectively*
21	G	*Universal gravitational (coupling) constant*
22	μ_{ei}	*Electron-to-ion mass ratio*
23	η_{dn}^{*}	*Normalized kinematic viscosity of the neutral dust fluid*
24	χ	*Effective generalized viscosity (dynamic)*