What functions are in

plasmapy.formulary

plasmapy.formulary.speeds
Alfven_speed(B,density)
ion_sound_speed(T_e,T_i)
Kappa_thermal_speed(T,kappa)
thermal_speed(T,particle)

plasmapy.formulary.frequencies
gyrofrequency(B,particle)
Lower_hybrid_frequency(B,n_i,ion)
plasma_frequency(n,particle)
upper_hybrid_frequency(B,n_e)

plasmapy.formulary.ionization
ionization_balance(n,T_e)
Saha(g_j,g_k,n_e,E_jk,T_e)

plasmapy.formulary.lengths
Debye_length(T_e,n_e)
gyroradius(B,particle,[Vperp,T])
Inertial_length(n,particle)

plasmapy.formulary.drifts
diamagnetic_drift(dp,B,n,q)
ExB_drift(E,B)
force_drift(F,B,q)

Other Formulary Categories: dielectric, distribution, magnetostatics, mathematics, quantum, radiation, relativity

plasmapy.formulary.braginskii
electron_thermal_conductivity()
electron_viscosity()
ion_thermal_conductivity()
ion_viscosity()
resistivity()
thermoelectric_conductivity()

plasmapy.formulary.collisions
collision_frequency(T,n,species)
Coulomb_logarithm(T,n_e,species)
impact_parameter(T,n_e,species)
mean_free_path(T,n_e,species)
Spitzer_resistivity(T,n,species)

plasmapy.formulary.dimensionless
beta(T,n,B)
Debye_number(T_e,n_e)
Hall_parameter(n,T,B,ion,particle)
Lundquist_number(L,B,density,sigma)
Mag_Reynolds(U,L,sigma)
quantum_theta(T,n_e)
Reynolds_number(rho,U,L,mu)

plasmapy.formulary.misc
Bohm_diffusion(T_e,B)
magnetic_energy_density(B)
magnetic_pressure(B)
thermal_pressure(T,n)

Many functions also have shorthand alias!
See full documentation at docs.plasmsapy.org

Don't see what you use or need?

Talk to a PlasmaPy developer to recommend functionality or to learn how to contribute to PlasmaPy's module library. More functionality is being added to PlasmaPy all the time by dedicated developers AND community contributors!

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