

On multiparticle statistical approach to the solar wind modeling

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The suggested model of the stationary solar plasma flow is based on the Liouville equation and the assumption that particles have indistinguishable coordinates in the volume of the instrumental resolution scale [1]. For the case of collisionless fully ionized hydrogen (two-component) plasma flow ejected by the Sun this multiparticle model is reduced to the two-particle model [2]. The related results for the radial dependences of solar wind density and speed are derived and compared to the observational data.

References

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[2] Vsenin Y.M., Minkova N.R. Two-particle quasineutral kinetic model of collisionless solar wind.// *Journal of Physics A. Mathematical and General*. - 2003, V.36, Issue 22. P.6215-6220.