

## Evolution of proton temperature anisotropy and Alfvénic turbulence in the radially expanding solar wind

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In the present study, we develop an analytical model of the radially expanding solar wind plasma that includes the proton temperature anisotropy and low-frequency Alfvénic turbulence. The conservation of the "apparent temperature" in the flux tube is derived as the Bernoulli law in the magnetohydrodynamic (MHD) equations with the pressure anisotropy. Our analytical model shows that the conversion from "apparent temperature" to "real temperature" occurs in the radially expanding solar wind.

Keywords: solar wind, proton temperature anisotropy, Alfvénic turbulence