Bimodal distribution of the solar wind using data from ACE spacecraft.

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The main goal of this work is to separate the behavior of the two types of quiet solar wind at 1 AU: fast and slow. Our approach is a bi-Gaussian distribution function, formed by the addition of two Gaussian distribution functions, where each one represents one type of wind. We check our approach by fitting the bi-Gaussian to data from ACE spacecraft. We use level 2 data measured during solar cycles 23 and 24 of different solar wind parameters, including proton speed, proton temperature, density and magnetic field. Our results show that the approach is fine and only transient events departs from the proposed function. Moreover, we can show bimodal behavior of the solar wind at 1 AU, not only for the proton speed, but also for the other analyzed parameters. We also check the solar cycle dependence of the different fitting parameters.