Abstract Submitted
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The physics of fast electrons in the solar wind[1] STANISLAV BOLDYREV, University of Wisconsin - Madison — The electron velocity distribution function in the solar wind typically contains a population of energetic, suprathermal electrons that form a beam (strahl) along the magnetic field lines. These electrons streaming from the hot solar corona along the Parker-spiral magnetic field lines, experience very weak Coulomb collisions, and they can contribute to the energy transport and heating of the solar wind. I will discuss some recent analytic results [1-4] on the formation of the electron strahl, and its role in the solar wind heating. [1] Horaites, K., Boldyrev, S., Krasheninnikov, S.I., Salem, C., Bale, S.D., Pulupa, M., Phys. Rev. Lett 114, 245003 (2015); [2] Horaites, K., Astfalk, P., Boldyrev, S., Jenko, F., MNRAS 480, 1499 (2018); [3] Horaites, K., Boldyrev, S., Medvedev, M. V., MNRAS 484, 2474 (2019); [4] Boldyrev, S, Horaites, K, MNRAS (2019) submitted.

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