



Structure of the lunar wake: global hybrid simulations

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We study the structure and properties of the lunar wake with these solar wind parameters: the angle θ_{sw} between directions of the solar wind velocity v_{sw} and the ambient interplanetary magnetic field (IMF) B $\theta_{sw} = 45^\circ$ and 90° and $v_{sw} = 6v_A$ (where v_A denotes solar wind Alfvén velocity). We examine the structure of the wake-tail formed behind the obstacle. In agreement with *in situ* observations the lunar wake is formed by two counterstreaming beams which fill the wake with a relatively cold, inhomogeneous and highly anisotropic plasma. The results of this study suggest, that under the given solar wind conditions the downstream region of the lunar wake is dominated by an electromagnetic turbulence with the frequencies about the local proton gyrofrequency. The properties and possible generating mechanisms of the low-frequency electromagnetic turbulence are discussed.