**Modification of the solar wind turbulence in the Earth’s magnetosheath**  
  
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The solar wind is known to be the main driver of the magnetospheric activity. The largest perturbations of the Earth’s magnetosphere are associated with the periods of disturbed solar wind. However, sometimes magnetospheric activity can be observed during the undisturbed solar wind and turbulence is sometimes suggested to be a reason of this activity. In front of the magnetosphere there is a transition region called magnetosheath, which modify the solar wind structures and the turbulence properties. But these changes are not fully described to date. Present study adopts the simultaneous measurements of the turbulence properties in the solar wind and in the magnetosheath for various background conditions to analyze the changes of the turbulent cascade at the bow shock and the factors which affect this change. Wind and Themis spacecraft data are used. Statistics includes ~400 hours of measurements during maximum and minimum of the solar cycle (years 2008 and 2014). The results demonstrate, that only 14% of cases demonstrate no change of the turbulence properties. Also, during periods of high-speed and high-temperature solar wind flows (associated predominantly with the coronal holes) spectra at the kinetic scales do not change during the bow shock crossing. The work was supported by the Russian Science Foundation, grant 22-72-00105.