Multi-component modelling of the heliospheric interface: new results

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New kinetic-continuum models of the interaction of the solar wind with the local interstellar cloud (LIC) were developed by our Moscow group during last two years. These models study, in particulary: 1) effects of solar cycle variations of the solar wind dynamic pressure, 2) effects of the interstellar magnetic field, and 3) multi-component nature of the heliospheric plasma. New results obtained in the frame of these models will be presented. Aspects of the model predicions related to new discoveries made by Voyagers and SOHO/SWAN as well as implications to future IBEX observations will be discussed.