Hydrodynamic modeling of the heliospheric structure

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The heliospheric interface is calculated using a three-fluid hydrodynamic model. Using this approach the effects of different solar wind profiles, as they may occur during different levels of solar activity, on the heliospheric structure and the distribution of hydrogen and pickup ions are calculated self-consistently. We present a time-dependent parameter study with respect to the solar wind density, velocity, and temperature varying over a solar cycle and its influence onto the heliospheric interface, the hydyrogen distribution and the pickup ion production rate.