



Modeling the plasma flow in the inner heliosheath with a spatially varying compression ratio

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We examine a previously developed, semi-analytical non-magnetic model of the termination shock location. The plasma flow beyond the shock is considered incompressible and irrotational, thus the flow potential is analytically derived from the Laplace equation. We examine the characteristics of the downstream flow in the heliosheath and we show that the model needs to be modified in order to be consistent with the Rankine-Hugoniot jump conditions and the termination shock geometry. It is shown that a varying shock compression ratio along the heliolatitude can lead to physically correct results. We describe the new model and present few simplified examples of the termination shock and heliopause locations with respect to the compression ratio that varies along the termination shock heliolatitude.