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Themis contribution to the determination of the magnetopause shape, location and dynamics

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A set of more than nine thousands of low-latitude magnetopause crossings observed by five THEMIS spacecraft over seven years is compared with our former set of magnetopause observations obtained from Interball and Geotail projects and with empirical models. Our statistics include the day side as well as flank magnetopause positions. Beside the influence of averaged upstream conditions on the magnetopause location, we discuss the differences between THEMIS observations and model predictions, mainly when the magnetopause is observed in unexpected positions.