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Monitoring the Mercury's Sodium exosphere from THEMIS solar telescope

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Abstract

Almost twenty years of ground based observations have highlighted several features of Mercury's exosphere which will further explore by two forthcoming space missions to Mercury, MESSENGER to be inserted in 2011 and Bepi-Colombo to be inserted in 2020. Long and short term evolutions of the exosphere, local and global spatial distributions, its sources and sinks and its coupling with both surface and magnetosphere are among the characteristics of Mercury's exosphere that begin to be more clearly understood. Actually, ground based observations provide a view of Mercury's exosphere that will be only poorly seen by these two space missions. As an example, the global annual cycle of Mercury's exosphere, its energetic characteristics and its large scale structure will be poorly or not at all observed by these space missions. In this presentation, we will summarize these points and will describe our most recent observations using THEMIS Solar Telescope.

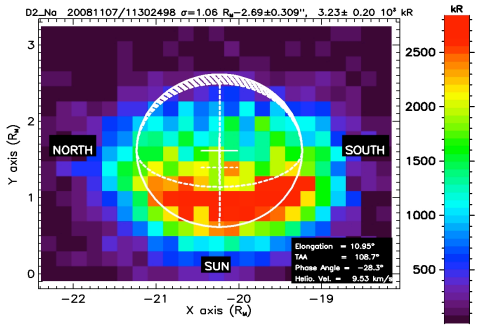

Figure 1 : morning/evening assymetry as seen from the THEMIS solar telescope.