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Sodium exosphere morphology of Mercury

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Since many years Mercury exosphere dynamics and morphology is a matter of discussion. Presently the new MESSENGER data from flybys are providing us with new precious information but Mercury exosphere remains still not completely understood.
Enhancement of sodium emission in one hemisphere with respect to the other or close to the polar regions have often been detected and interpreted in terms of different release processes efficiency or different IMF conditions and solar activity. They were also evidenced by the first two flybys of MESSENGER, while the third one shows an almost homogeneous emission coming from the disk.
More recently, the variations in intensity of the sodium component emission have been interpreted as a consequence of the orbital path of Mercury, while crossing or being out of the more 'dusty' ecliptic plane, due to Mercury's orbit inclination.
In the present poster, sodium D lines observations performed at the Italian Telescope Galileo TNG and at the French Solar Telescope THEMIS in Canaries in are analyzed and discussed in relation with the external conditions and the present knowledge of the Hermean exosphere.