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Vertical profile of the Mars atmospheric temperature and density retrieved from Mars Express SPICAM stellar occultations: Data analysis and comparison with Genera l Circulation Model prediction.

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The observation of numerous stars rising or setting through the Martian atmosphere as seen by the SPICAM UV spectrometer aboard Mars Express allows to retrieve the atmospheric density and temperature from below 40 km to above 120 km (see companion abstract by Quemerais et al.). This part of the atmosphere was previously almost unknown since almost no measurements were available (a few entry profiles). Moreover, General Circulation Model simulations have shown that this part of the atmosphere should present a very active and interesting dynamic, but that simulation prediction are extremely model dependent.

In this talk, we shall present new results of inversion of several tens of profiles obtained around northern spring and summer. These profiles will be interpreted with the help of the LMD general circulation model which has recently been extended up into the thermosphere and is thus ideally suited for this analysis.