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Achondrite NWA 7325: A spectral and cosmochemical study of a potential sample from Mercury.

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The ungrouped achondrite Northwest Africa (NWA) 7325 was found 2012 in Western Sahara. First analyses revealed a unique sample with high plagioclase and Cr-diopside abundances. The Al/Si and Mg/Si ratios as well as especially the very low Fe content are similar to the surface properties of Mercury. Thus NWA 7325 is speculated to be the first sample from this planet [1,2]. Here, we present first mid-infrared and Raman data from a sub-sample of NWA7325. The (infrared) spectral information will be useful to compare it with available data from Mercury based on ground based observations (e.g., [3]) or for the future space mission BepiColombo, which will reach Mercury in 2022 and have a unique mid-infrared spectrometer (MERTIS) on board [4].

[1] Bischoff, A. et al. (2013) EPSC2013, #427. [2] Irving et al. (2013) 44th LPSC, # 2164. [3] Sprague et al. (2007) Space Sci. Rev. 132, 399–431.[4] Zeh

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