



MILLBILLILLIE: reflectance spectroscopy in the visual and near infrared range

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The Dawn mission to the minor planets 1 Ceres and 4 Vesta has been also designed in order to verify if Vesta, whose basaltic nature was inferred from its reflectance spectroscopy, is really the source of eucrite and diogenite meteorites. In our laboratory at INAF Rome we have a suitable facilities to collect spectra of selected samples that can be considered analogous materials of VESTA. We will be then able to foresee what will be the expected spectrum of Vesta materials. We have up to now used such facilities in our laboratory on the Millbillillie meteorite. In order to collect the Millbillillie spectra under different illumination angle, as it will be done during the Dawn mission, we have developed an ad-hoc laboratory set-up. The set-up consist in 2 goniometric arm rotating around a common axis. The plane passing through the rotation axis and perpendicular to the horizontal plane on which the sample is located. Each of the arms carries can hold optical fibers, through which the sample can be illuminated and the reflected light can be transported to the DM that is used to make spectroscopic measurements. The two arms controlled by step motors that allow to move the light source at different angles looking always the same region of the sample. Spectra in the range 1-2.5 microns were collected. Moreover we have collected some Millbillillie spectra during the VIR-MS calibration campaign. VIR-MS is the imaging spectrometer in the visual and infrared range of the Dawn mission.