Observation of Geocoronal Hydrogen and Deuterium Lyman alpha Emissions by a D/H Cell Photometer on Board the SS-520-1 Rocket

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The altitude profiles of atmospheric and geocoronal hydrogen or deuterium give important information on the escape process of these gases. The Lyman alpha photometer (LAP) on board the SS-520-1 rocket, which was launched at sunset at 0830 UT on February 5, 1998, observed geocoronal H and D Lyman alpha emissions. The LAP has H and D abserption cells to measure H and D Lyman alpha emission separately. The width of Lyman alpha emission can be estimated by changing the optical depth of the cell by switching the filament current of each cell. We will show the altitude profile of H Lyman alpha emission, and compare it with the result of model calculation.