



Lyman-alpha Observations of the Sun from Space

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The Lyman-alpha line is most intensive line in Ultraviolet (UV) solar spectrum, whose relative brightness in the corona with respect to the mean brightness of the solar disk is more than 2 orders of magnitude larger than in the visible wavebands. This impose less stringent requirement for the stray light suppression and make it possible to detect faint features. The short wavelength of the Lyman-alpha line allows us to reach high spatial resolution with small telescope aperture. The wide temperature coverage of the Lyman-alpha line allows us to access both low- and high-temperature features on the Sun, such as filaments, jets, loops, coronal holes, coronal mass ejections (CMEs), flares, etc.

Even though the Lyman-alpha line has obvious ad-

vantage in observing the Sun, there have not many observations so far for technical reasons. In this talk, I will review solar observations in this line done by various satellites and sounding rockets, such as OSO, TRACE, SOHO, IRIS, VAULT, etc. Meanwhile, I will outline the prospectives of the Lyman-alpha line in future solar observations with proposed satellites, such as the Solar Orbiter, the Advanced Space-based Solar Observatory (ASO-S).

References

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