

## Estimation of the Solar Wind Speed Near the Sun on the Basis of Speed Measurement of Limb CMEs

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Observational information on the solar wind speed in the region within 20 solar radii from the Sun is essential to understand the acceleration mechanism of the solar wind, but direct access to the region has been difficult. Measurement of the speeds of coronal mass ejections (CMEs) provides us one of the limited opportunities to know the solar wind speed in the vicinity of the Sun. Gopalswamy et al. (2000, 2001) presented a linear relationship between the initial speeds of limb CMEs and their average acceleration during their transit to 1AU in interplanetary space, which suggests that a dragging force is acting on the CMEs, depending on the speed difference between the CMEs and the ambient plasma. The linear relationship was found between the initial acceleration and the speed of the limb CMEs measured within the field of view of the SOHO/LASO telescopes as well. Using the relationship, we can estimate the solar wind speed in the vicinity of the Sun. The ambient solar wind speed within 20 solar radii estimated from low-latitude CMEs during 1998 - 2003 ranged from 100 to 700 km/s, while the solar wind speed measured at 1AU ranged from 300 to 700 km/s. The estimated solar wind speeds in the vicinity of the Sun sometimes agreed with the simultaneous in situ measurements at 1AU, but in other periods, they were slower than the speeds measured at 1AU. It is suggested that most of the time the low-latitude solar wind completes accelerating within 20 solar radii, but occasionally additional acceleration is present beyond 20 solar radii.