



The space weather forecast using asymmetry in projected velocities for halo CMEs

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Halo coronal mass ejections (HCMEs) originating from regions close to the center of the Sun are likely to be geoeffective. Unfortunately, SOHO/LASCO observation subject to projection effects which do not allow to get real parameters of HCMEs and predict the magnetic storms with good accuracy. We propose to estimate real speeds of HCMEs using asymmetry in their projected speeds. Asymmetry is defined as ratio between speeds of the fastest and slowest parts of HCMEs. Using improved velocities for HCMEs we could predict with very good accuracy arrival time of magnetic clouds in the Earth vicinity and the strengths of geomagnetic storms.