



Solar cycle variations in solar wind parameters

N. Nikolaeva , Yu. Yermolaev , I. Lodkina

Space Research Institute RAS, Moscow, Russia (Email nnikolae@iki.rssi.ru)

Study of the solar cycle variation of events such as CIR, ejecta and MC is one of the significant problems of solar and heliosphere physics. It is known that different types of solar wind streams are characterized by different values of such solar wind parameters as T_p/T_{exp} (the ratio of measured temperature T_p and expected temperature T_{exp}), NkT (thermal pressure) and b (the ratio of plasma thermal pressure to magnetic pressure). In such events as corotating interaction region (CIRs) and sheath the ratio $T_p/T_{exp} > 2$, $b > 1$ and $NkT > 0.01$ nPa, while $T_p/T_{exp} < 0.5$, $b < 0.5$ and $NkT < 0.005$ nPa for ejecta and magnetic cloud events (Ejecta, MC). Using OMNI solar wind database, the variations of parameters T_p/T_{exp} , NkT and b and occurrence rate of CIR, ejecta and MC events in accordance with solar cycle activity in 1976-2000 are analyzed.