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ON THE ASSOCIATION OF ERUPTING MAGNETIC FIELDS WITH ERUPTIVE PROMINENCES AND CORONAL MASS EJECTIONS

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A number of space and groundbase observations give evidence that the eruptive prominences, coronal mass ejections (CMEs) and the associated shocks are generated by a common cause - eruption of magnetic field from the sun. About 60% of the observed CMEs are associated with the eruptive prominences. We suspect that in reality a much better correlation should be between these events because of observational limitations and of the effect of "partial eruption". Some recent results on the formation and evolution of the quiescent and the active region prominences give an idea on the early phase of eruption of the magnetic field with the prominence plasma frozen in. In the later phase of eruption the magnetic field lifted high into the corona is seen (as manifested by the cold plasma frozen in) as a system of huge loops - evidently the result of some reconnections at lower heights. The legs of these erupting loops interact sometimes with the local magnetic field - it often appear to be an active region. In consequence of this interaction the activation of prominences and generation of flares can take place at some occasions as well as ejection of surges and sprays.