Observational Evidence for Velocity Convergence Toward Magnetic Neutral Lines as a Factor in CME Initiation

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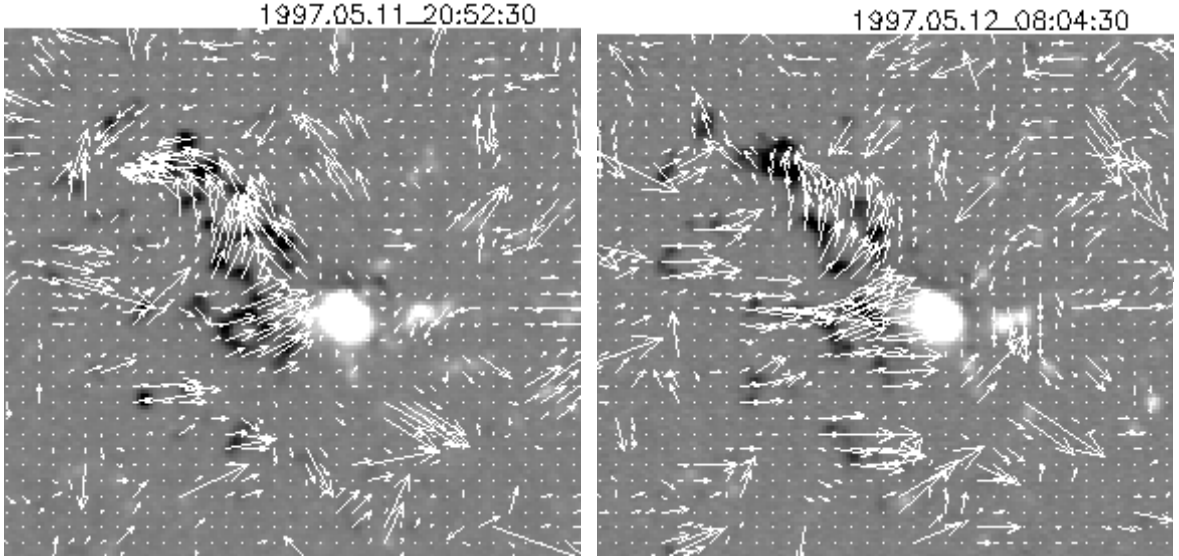
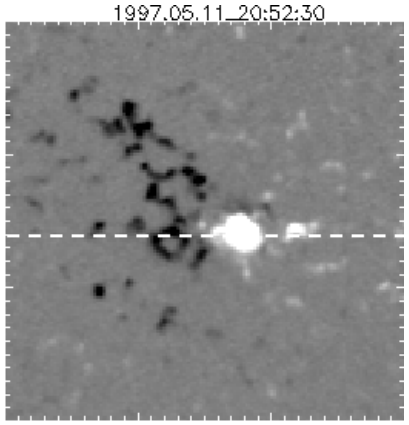
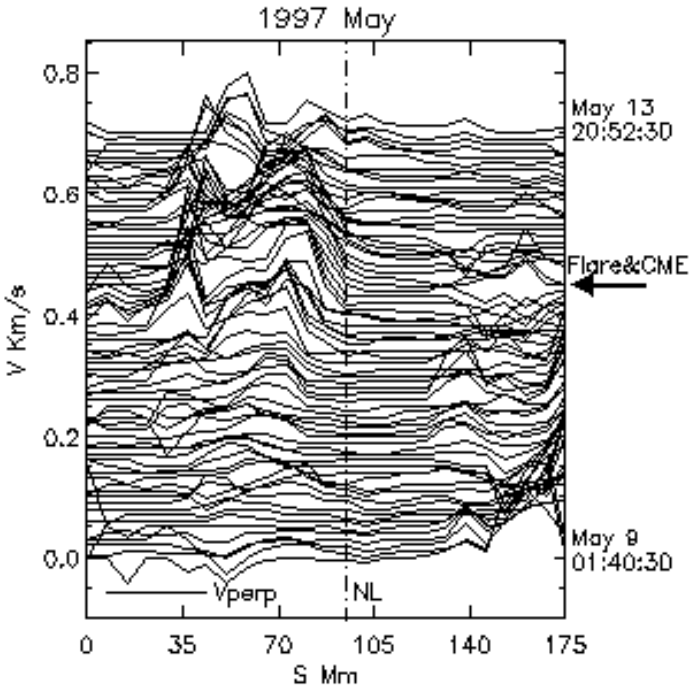
Poster 5

A leading candidate in CME initiation tested in several recent numerical simulations is photospheric magnetic flux cancellation by velocity convergence toward the neutral line.







Above: Flow field in AR8038 around the May 12 97 CME from LCT and MDI magnetograms.

Right: Stack plot showing temporal evolution of the converging flow (Vperp) toward the neutral line. Vperp values are obtained along the dashed line (top right) crossing the region with the maximum flow.

LCT results for September 1996 decayed active region

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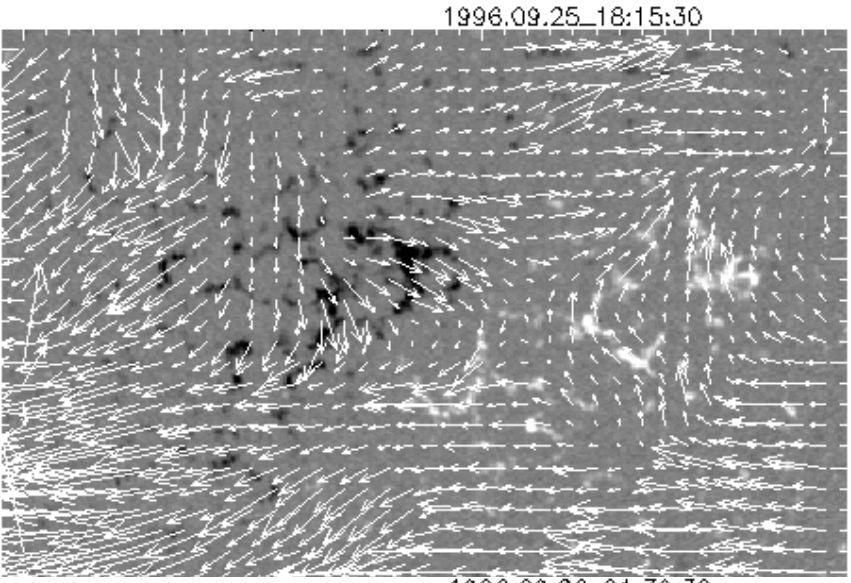
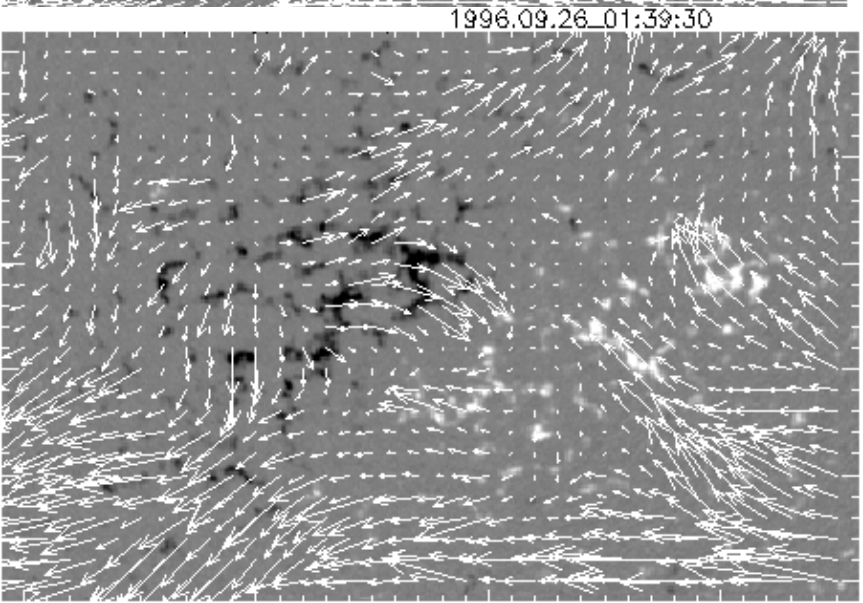
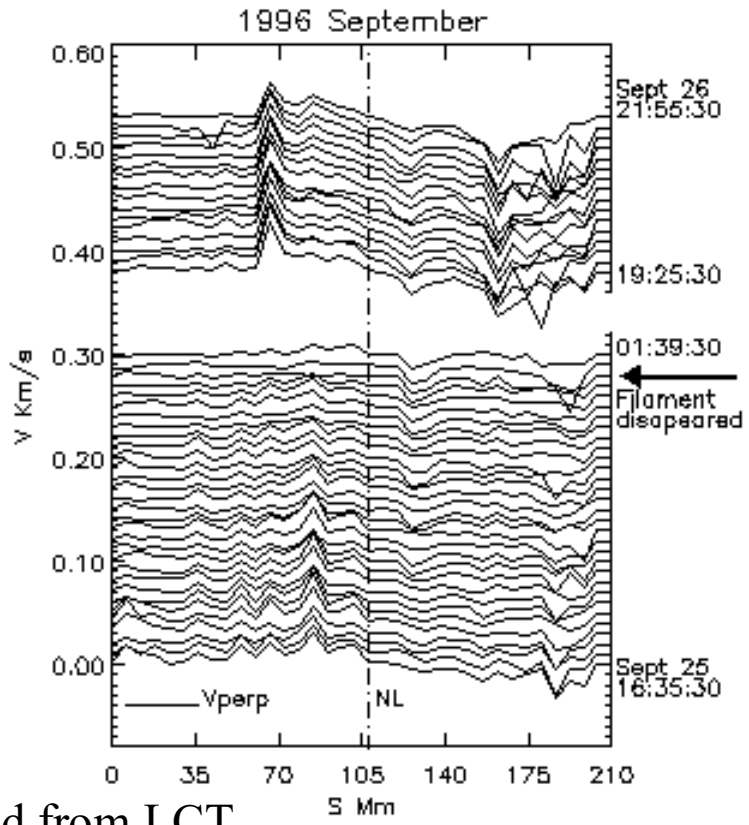
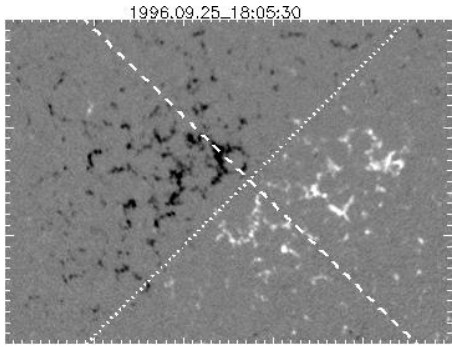






Left: Flow field from LCT and MDI mags.

Right: Stack plot showing temporal evolution of the converging flow (Vperp) toward the neutral line (dotted line in bottom right).



Vperp values are obtained along the dashed line (bottom right) cross the maximum flow region.