CMEs: How well do we understand their propagation dynamics?

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- CME examples

CMEs and shocks

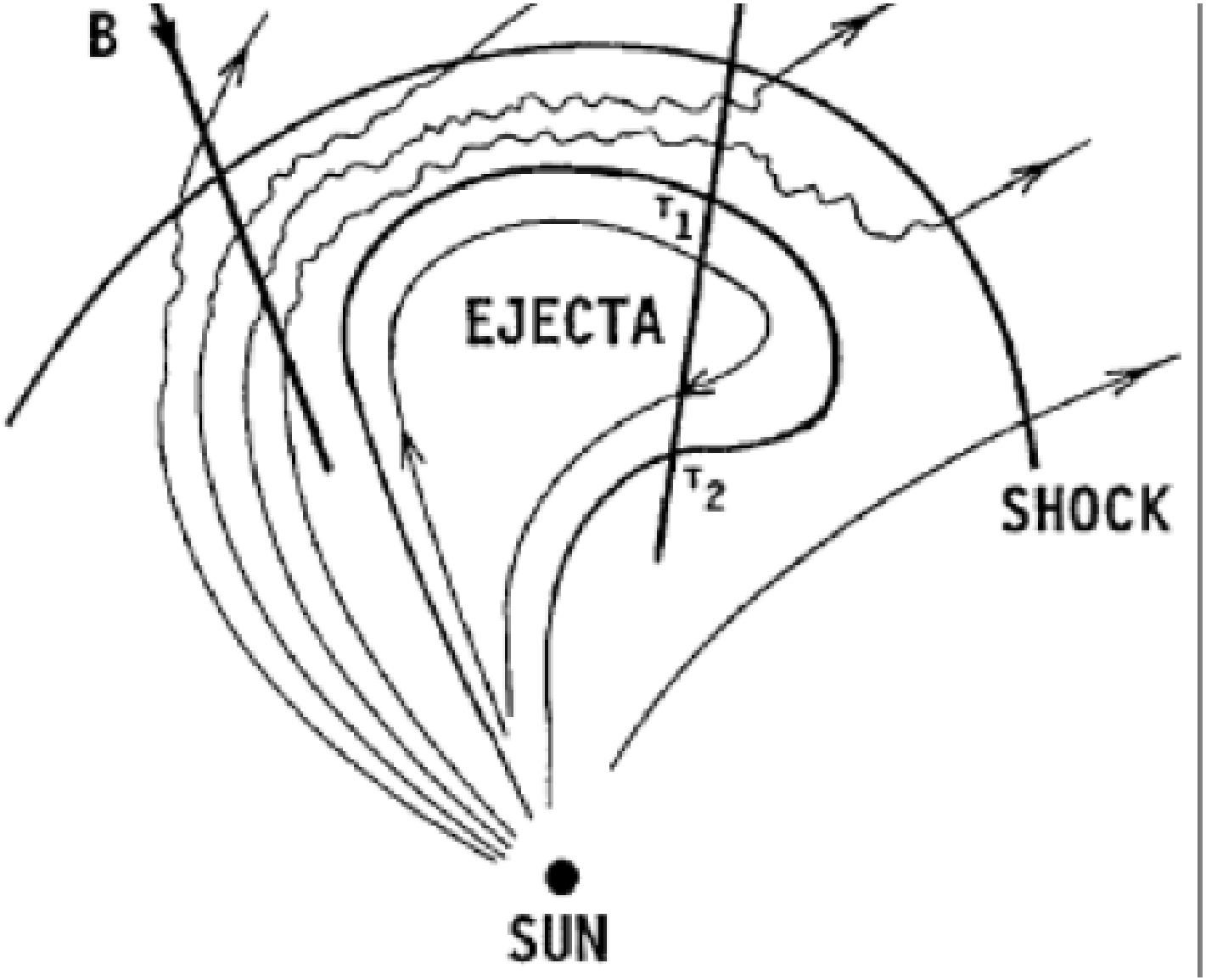

Figure : Cane 2000

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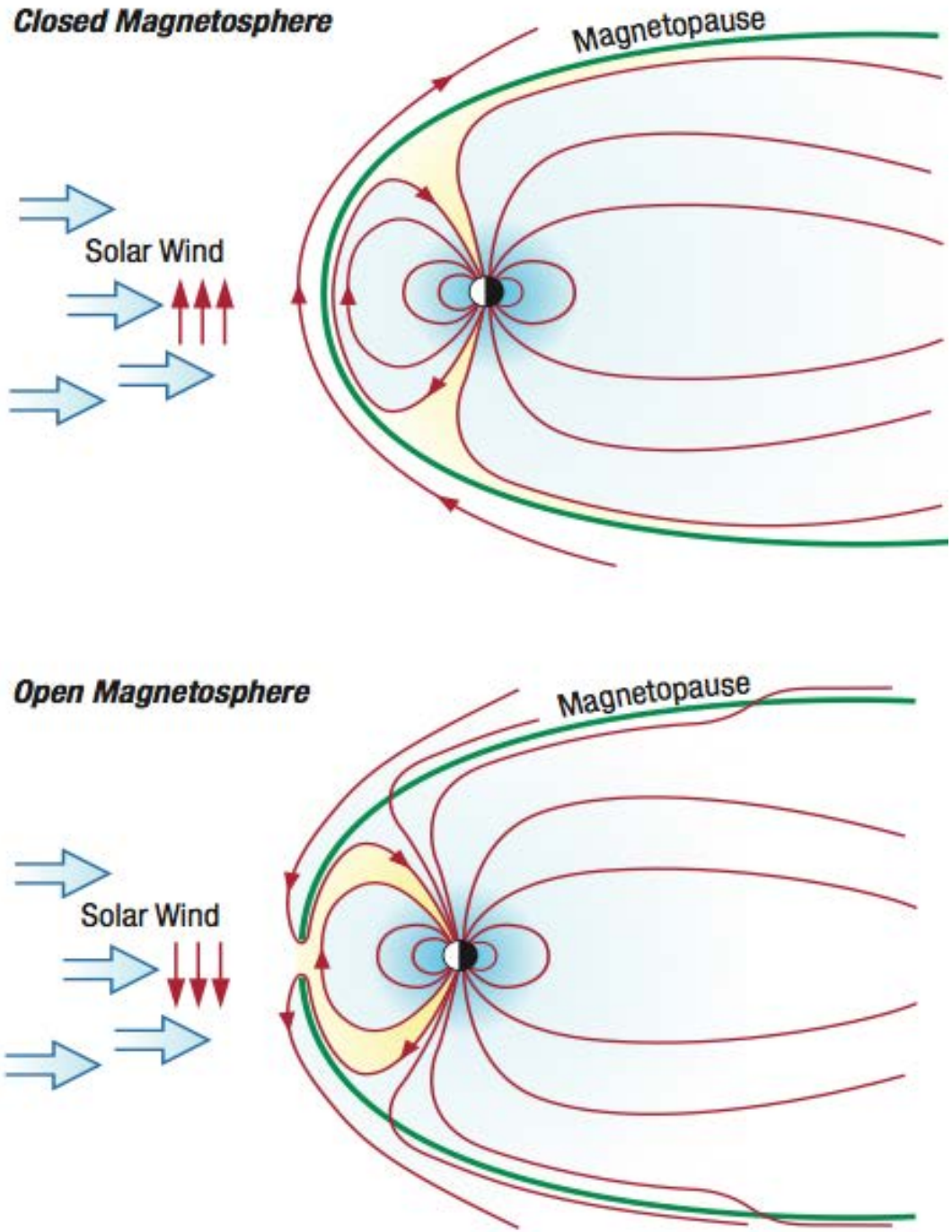
  - *turbulence level in CME sheath*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- ..and then there is the challenging problem of tracking them farther than the coronograph FOV; e.g., Heliospheric Imager observations, (*Colaninno, Harrison, Howard..*) Interplanetary scintillations (*Jackson, Manoharan, Tokumaru..*) and shock proxies like IP type II bursts

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- ..and of course, many sophisticated MHD CME propagation codes (e.g., ENLIL, BATSRUS, and many others)

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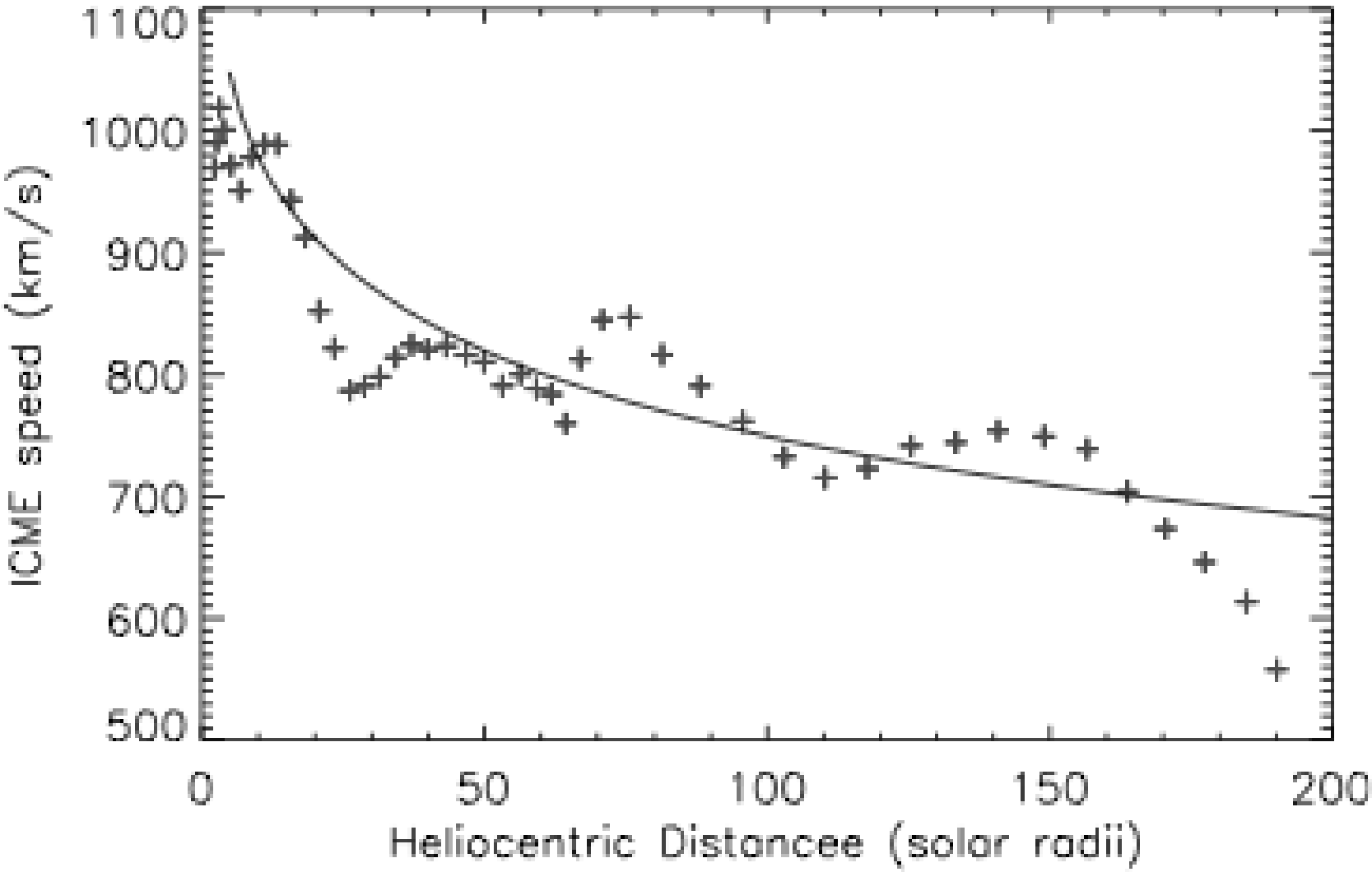
e.g., STEREO data of fast, decelerating CME (Wood et al 2009)



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