



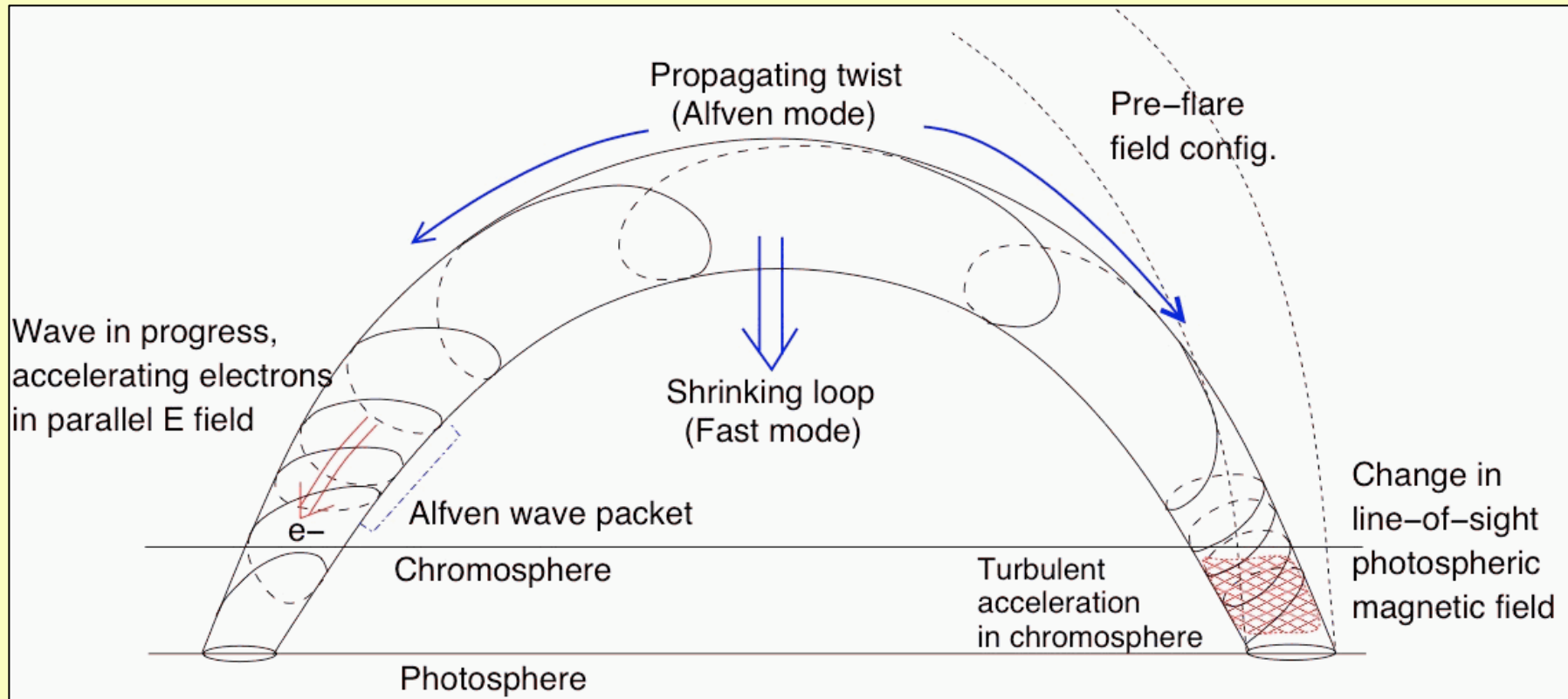
The mystery of the **MISSING MOMENTUM**

H. S. Hudson

Space Sciences Laboratory, University of California, Berkeley, USA

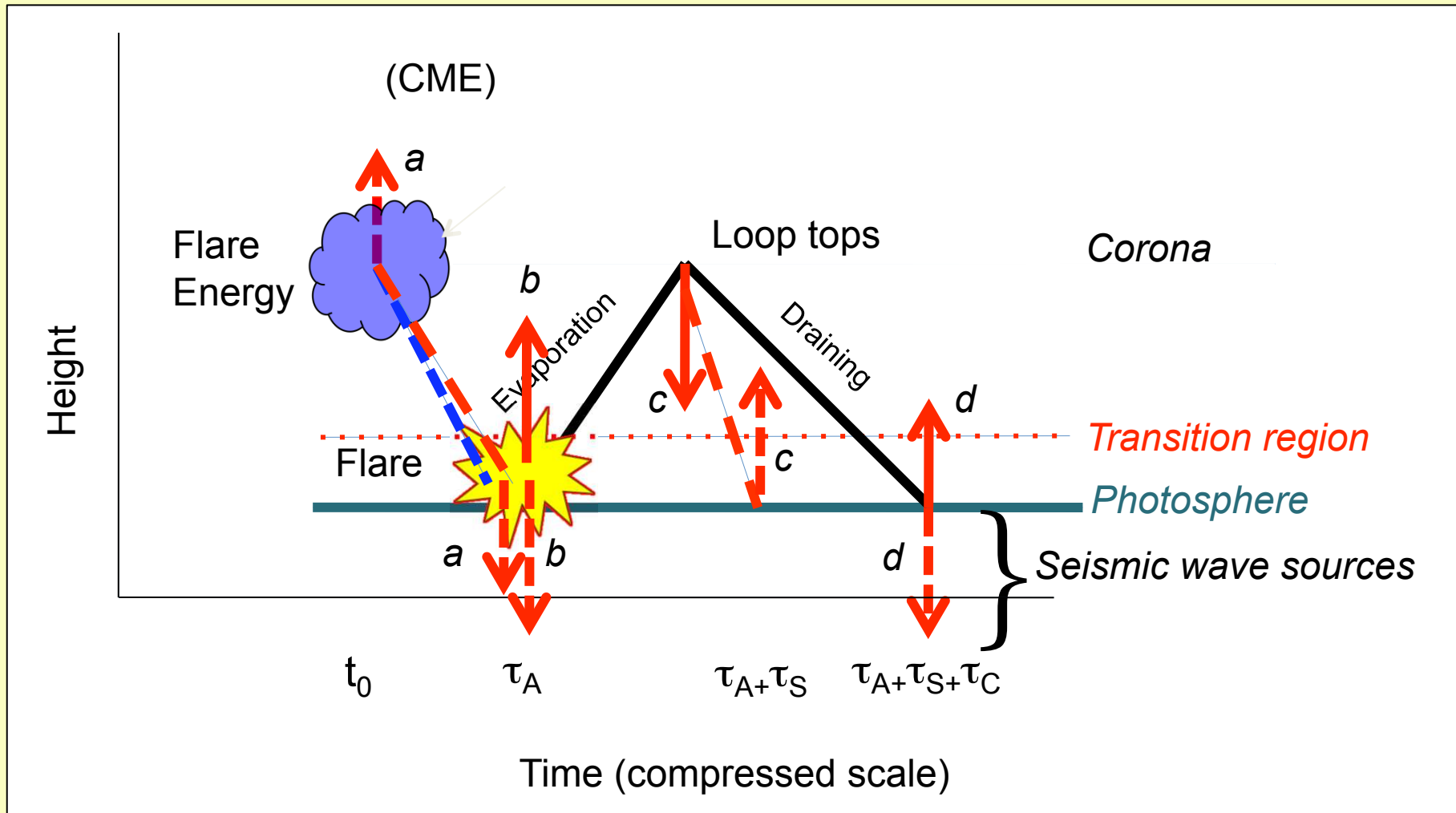
Astronomy & Astrophysics Group, Glasgow

Flare cartoon



Fletcher & Hudson, 2008

Momentum cartoon¹



¹Simplified view of vertical component
(Hudson et al, 2011)

The MYSTERY

- Each mass motion in a flare/CME requires momentum conservation
- This is easy to imagine for evaporation or in the case of a CME
- But what happens to the vertical component of the impulsive energy release? **This is presently undetected!**

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The RELEVANCE

- Flare energy is comparable to general coronal energy (the nanoflare hypothesis)
- Non-CME flares must inject momentum and energy into the upper corona via wave action
- There must be signatures of this punctuated momentum injection in the slow solar wind.