

“Standard Model for Galactic Propagation” has as fundamental basis the interpretation of secondary nuclei (Li/Be/B). The study of secondary really measures *grammage*, and then *assumes* that it is accumulated in interstellar space.

Potential Problems:

- [1] Requires a new hard source of positrons [that must be verified]
- [2] Predicts a too soft anti-proton flux
- [3] Possible conflict with Be-10 measurements of CR residence time
- [4] Difficulty in identifying signatures of energy losses in the  $e^\pm$  spectra
- [5] Multi-TeV electron accelerators should be detected.
- [6] Requires theoretical model for the TeV break in the electron spectrum

Intriguing “coincidence”  $(e^+/\bar{p})_{\text{flux}} \approx (e^+/\bar{p})_{\text{sec.prod.}}$  suggests **Alternative Propagation Scenario**. Faster propagation (shorter CR age).

- [a] Energy loss features of same structure for positrons and electrons at  $E \approx 1$  TeV (already excluded ?)
- [b] Need model for grammage in the sources
- [c] Need model for electron/proton acceleration

“Radical Speculation” for Accelerator spectra. Motivated by:

(1) Evidence for log-normal Spectra, (2) Structures in the CR spectra  
Different sources generate spectra of different shapes. The power-law form emerge as a statistical property of the ensemble of all sources.

Is the concept of SELF-ORGANIZED-CRITICALITY relevant for CR ?