

The First Multi-Viewpoint Catalog of Coronal Mass Ejection (CME) Properties

- **What is it?**

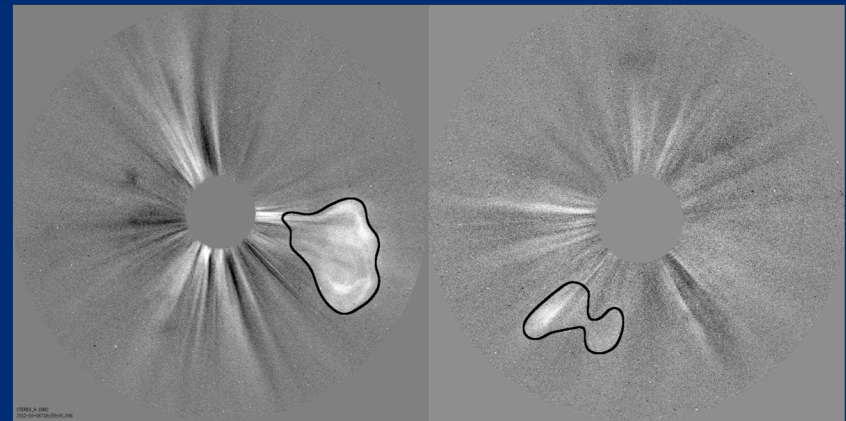
The first-ever 'stereoscopic' catalog of CME properties (based on simultaneous 2 viewpoint observations from the STEREO mission).

- **Why is it important?**

- Exploits the uniqueness and longevity of the STEREO mission to understand the variability in the 3D CME structure
- First catalog to characterize CME morphology and thus provide insights of their physical nature

- **What are the main results?**

- Projection is the dominant effect for single-viewpoint observations. It determines whether the event is detected and measured correctly.
- This has important implications for Space Weather. For example, observations from a coronagraph on the Sun-Earth line may not capture the Earth-directed structure (see figure)
- Very few CMEs escape detection ($< 3.5\%$) from a given instrument. Missed events are either too faint or too small (i.e. may not be CMEs).



The effect of projection: The same CME seen by COR2-A (left) and B (right). The telescopes are 60° apart. Projection can lead to misidentification of some Earth-directed CMEs with as yet-unknown Space Weather effects.

Database open to the public at <http://solar.jhuapl.edu/Data-Products/COR-CME-Catalog.php>

