

## **SMEI direct observations and 3D-reconstruction measurements and their comparison with STEREO instrumentation**

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We present results from Solar Mass Ejection Imager (SMEI) observations in January 2007, and also preceding and during the Whole Heliosphere Interval (WHI) in 2008. The first of these periods occurs when the STEREO spacecraft views are aligned with those from SMEI. During this interval, using difference images, we map several CME structures that coincide in both the HI-2A and SMEI observations. SMEI brightness analyses determined both by short-term subtractions and by subtracting a mean brightness fit over long-time durations are used to show the extents of the CMEs that travel outward from the Sun above the East limb in late January 2007. The 3D reconstructions from the SMEI analyses are used to show specific features within the CME events, and to reconcile difference images with those where a long-term base has been removed. From 3D reconstructions we determine the mass of the CME events North of the ecliptic in these analyses. For WHI (Carrington Rotation 2068), and the rotation preceding it in early 2008, SMEI data are used to map persistent dense structures. The observations are also used to explore the relationship of these persistent dense structures to high- and low-velocity regions measured using interplanetary scintillation (IPS) observations, and are compared with STEREO and Wind *in situ* measurements.