

Toward Connecting the Sun-to-Earth Picture: What we can do today

Luhmann, J. G. (1), jgluhman@ssl.berkeley.edu; D. Odstrcil, (2); L. M. Mays (3); L. K. Jian (4); Yan Li (1); and C. O. Lee (1).

(1) SSL, University of California, Berkeley, CA, USA

(2) George Mason University, Fairfax, VA, USA

(3) Catholic University of America, Washington, DC, USA

(4) University of Maryland, College Park, MD, USA

Current modeling capabilities allow us to integrate what we have learned into a broader picture of our local space environment's relationship with the Sun. In particular we describe how one simulation of the interplanetary medium and heliospheric disturbances -ENLIL- has been used as a tool to physically tie together multipoint observations of the Sun, solar wind structure and energetic particle events, and to understand how the evolving solar behavior affects what we experience on Earth. We also consider possible future developments and challenges for this type of endeavor and others like it.