
Inference of the Magnetic Field Vector in Prominences

Bruce Lites*¹

¹National Center for Atmospheric Research (NCAR) – Boulder, USA, United States

Abstract

Prominences owe their existence to the presence of magnetic fields in the solar corona. The magnetic field determines their geometry and are crucial to their stability, energetics, and dynamics. This review summarizes techniques for measurement of the magnetic field vector in prominences. New techniques for inversions of full Stokes spectro-polarimetry, incorporating the the Zeeman and Hanle mechanisms for generation and modification of polarization, are now at the forefront of field measurements in prominences. Instrumental requirements for effective measurement of prominences are also reviewed, as are measurements of the magnetic fields in the photosphere below prominences, and how they may be used to infer the field geometry in and surrounding the prominence itself.

Keywords: vector, photospheric fields, analysis techniques

*Speaker