



The COSMO K-Coronagraph

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The COronal Solar Magnetism Observatory (COSMO) is a proposed facility dedicated to studying coronal and chromospheric magnetic fields and their role in driving solar activity such as coronal mass ejections (CMEs). COSMO is comprised of 3 instruments: 1) a 1.5 m coronagraph dedicated to the study of coronal magnetic fields (see Tomczyk et al. poster); 2) a chromospheric and prominence magnetometer (see deWijn et al.); and 3) a K-coronagraph. The National Center for Atmospheric Research (NCAR) has provided full funding for the COSMO K-coronagraph, which will be deployed to the Mauna Loa Solar Observatory (MLSO) in the summer of 2013. It will measure the polarization brightness (pB) of the K-corona formed by Thomson scattering of photospheric light by coronal free electrons. With a field-of-view of 1.05 to 3.0 solar radii and an image cadence of 15 seconds, it is ideally suited for studying the formation and propagation of CMEs which are the primary driver of space weather at Earth. It will replace the aging MLSO K-coronameter (currently known as Mk4) which has been in operation since 1980.