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Bootstrapping the Coronal Magnetic Field with STEREO/EUVI

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The 3D coronal magnetic field obtained from stereoscopically triangulated loops has been compared with standard photospheric magnetogram extrapolations. We found a large misalignment of 20-40 deg, depending on the complexity of an AR (Sandman et al. 2009; DeRosa et al. 2009). These studies prove that the magnetic field in the photosphere is not force-free and fundamentally cannot reproduce the coronal magnetic field. Bootstrapping with coronal loop 3D geometries are required to improve modeling of the coronal field. Such coronal field bootstrapping methods are currently developed using stereoscopically triangulated loops from STEREO/EUVI and preliminary results show already a significantly reduced misalignment of 10-20 deg.