



Magnetic Field and Helicity of Solar Active Regions from Observations

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In this talk, we would like to analyze the configuration and evolution of magnetic fields and the corresponding relationship with the magnetic non-potentiality and helicity of active regions by means of observations of solar vector magnetograms.

We present the spectra of magnetic fields and helicity of individual active regions and the change of their spectral indices with the solar cycles based on the isotropic representation of the Fourier-transformed two-point correlation tensor of the magnetic field.

We also discuss some questions on the solar vector magnetic field and helicity from the solar observations in the future study.