

PEM023-05

Room: 301A

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## Long-Term Variations of the Solar Magnetic Dipole

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We study long-term variations of the solar magnetic field during three (21, 22, 23) solar activity cycles about in 35 years from 1615 Carrington rotation through 2089 Carrington rotation. We use the RF-model, the potential field and source surface model, for the coronal magnetic field. The magnetic field is assumed to be the potential field and can be expanded into spherical harmonic series. The spherical source surface of 2.5 solar radii, on which the potential is zero, is also assumed. It is found that the coefficient of the axial dipole component shows periodic sinusoidal variations along with the solar activity cycle. It is also found that the location of dipole axis on the solar surface moves from near the north pole to the south pole during the 21 solar activity cycle. The migration of dipole axis took place in the following 22 and 23 solar activity cycles. It is interesting that these migrations occur within 90 dgrs longitude near the same meridional plane around 180 dgrs in Carrington longitude during three solar activity cycles.

Keywords: Solar Magnetic Field, Dipole Moment, Polarity Reversal, Long-Term Variations