Magnetic Helicity observations and Development of Solar Dynamo models.

abstract

This talk is concerned with understanding key physical mechanisms responsible for generation of solar magnetic fields and controlling the solar cycle. The important ingredient and contribution to the solar cycle is due to magnetic helicity, a measure of twistedness of the magnetic field. In recent two decades, important finding about the connection of magnetic helicity and the solar cycle has been found ad well as systematic observational studies of helical properties of solar magnetism have shed a light onto the operation of the dynamo inside the Sun.