

Variation of Cosmic Ray Intensity, 2. Solar system environment in our galaxy

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As will be discussed in another talk (Terasawa and Asano), the cosmic ray variation is one of plausible candidates that have largely affected the climate of the earth. We still have not firm evidence of the relation between the cosmic ray variation and the climate change, and physical understanding of the relation, for the present. However, we need to keep discussing such possibilities. The sources of cosmic rays are considered to be shock waves of supernova remnants propagating inter stellar medium. Since the cosmic ray distribution in our galaxy may be inhomogeneous, the movement of the sun may have caused the climate change. In this talk we will review recent studies of the relation between the climate change and the motion of the sun such as Gies & Helsel (2005) or Medvedev & Melott (2007). In addition we would like to discuss cosmic rays in a broad sense, such as gamma-rays and X-rays from high-energy celestial bodies.