

Cosmic Ray Anisotropy: A Review

Thursday, 26 September 2013 09:00 (40 minutes)

The anisotropy of the cosmic radiation has been studied for over half a century. For much of this time the results have been contradictory and difficult to understand. In the past decade there has been an increasing number of well measured anisotropies, that exhibit interesting energy dependence. In this talk I will summarize the status of both large and small scale anisotropy measurements from a few TeV to above 10^{19} eV. While some features of the observed anisotropies are firmly established others are not - for example the time dependence of the large scale anisotropy reported by Milagro and the chemical composition of the anisotropic component of the cosmic rays. I will discuss the observations that are on firm foundation and point to further measurements that must be made to confirm some of the more important but unconfirmed features of the anisotropies. Finally, I will discuss a new interpretation of the small-scale anisotropy as a local clump of dark matter.

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