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## The Composition of Cosmic Rays: Questions, Surprises, and Recent Answers

*Wednesday, 30 June 2010 16:00 (1 hour)*

Even though cosmic rays have been observed for almost a century, they remain enigmatic messengers from distant regions in space, and many questions about their origin and acceleration are still open. Details of the composition and of the energy spectra of the individual components are required to find answers, but are increasingly difficult to obtain with increasing particle energies. We will review the present knowledge, emphasizing the energy region below the “knee” where direct observations are possible, and discuss current measurements, their implications, and future prospects. We also will discuss some of the challenges that are associated with recently reported data on rare components such as electrons, positrons, and anti-protons.

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