

Preface

An International Workshop on Extremely High Energy Cosmic Rays (experiments, theories, and future direction) was held at March 22-23, 2001 in Japan. The aim of this workshop was the review of recent experimental results and theories of EHE cosmic ray origin and propagation in the universe. The observation of the highest energy cosmic rays has a long history. However, the progress achieved in the past 10 years has been especially prominent. This includes the confirmed observation of super-GZK particles by the AGASA, Fly's Eye, HiRes and other detectors and the AGASA discovery of clustering in the arrival direction distribution of EHE cosmic rays. In parallel, theories have also developed to understand EHE cosmic ray origin. This workshop provided a timely review of this progress. The future direction of this field was also discussed. Exciting next generation projects including Auger, TA, EUSO, and OWL are under construction or being planned to explore high energy particles including high energy neutrinos even further.

The most exciting news of this workshop was a report on the clusters in the arrival direction distribution of the highest energy cosmic rays. This important result suggests the existence of extra-galactic point sources of the highest energy cosmic rays. This result also underlines the importance for next generation projects to cover both the northern and southern hemispheres. We will expect a bright future for the new astrophysics of highest energy cosmic rays.

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