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Holographic Cosmic Ray Observatories: a new approach for measuring primary cosmic rays

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The energy, mass and arrival direction of high energy primary cosmic rays are usually estimated measuring at the Earth's surface the properties of the secondary particles produced after their first collision at the high atmosphere. For such purpose, usually, arrays of detectors are used providing, some of them together, an estimate of the parameters defining the primary cosmic ray. Recent technical advances has allowed the development of affordable cosmic ray detectors offering high granularity, outstanding time resolution and tracking capability. One of such kind of detectors, together with a better knowledge of the low-scale properties of the cosmic rays air showers, would perhaps be able to provide a good estimation of that primary cosmic ray parameters. An array of such kind of detectors working independently, as the different points of an hologram, would perhaps allow the improve the present methods of identification of primary cosmic rays.

Summary

This contribution is closely related to the contribution proposed with ID:139. If accepted, both contributions can be presented one after the other.

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