

## CHAOS IN COSMIC-RAY AIR SHOWERS: A FRACTAL WAVE MODEL

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Continuous observations of cosmic ray air showers with average primary energy of  $3 \times 10^{14}$ eV have been made in five different stations in Japan since five years ago. The time sequence of air shower arrival time intervals (ASATIs) containing several hundreds events during about 10 hours were analysed for finding some fractal dimension as the chaos signature. Nearly 100 candidates of the chaotic ASATIs were found and around each of them the time variation of the chaotic feature had a quasi periodic behaviour. This results are explained by the periodic observation, with the rotation of the earth, of the chaotic cosmic rays that have fractal wave structure ,arriving from the Galactic plane.