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Radar reflection off extensive air showers

We investigate the possibility of detecting extensive air showers by the radar technique. Considering a bistatic radar system and different shower geometries, we simulate reflection of radio waves off the static plasma produced by the shower in the air. Using the Thompson cross-section for radio wave reflection, we obtain the time evolution of the signal received by the antennas. The frequency upshift of the radar echo and the power received are studied to verify the feasibility of the radar detection technique. Preliminary results will be shown.

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