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## Modeling radio signals from Extensive Air Showers

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The time variation of a net macroscopic current in the thin shower front of an Extensive Air Shower gives rise to an electromagnetic pulse. This pulse will be emitted within the radio frequency range. A macroscopic model has been developed to simulate this radio pulse. Recent developments of this model will be discussed. Furthermore with the use of Monte-Carlo simulations we have investigated the influence of the primary composition of the cosmic ray on different shower parameters, and as a direct consequence the radio pulse emitted by proton or iron induced air showers. A different study has been done looking into polarization effects for the different emission mechanisms due to different sources of charge separation.

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