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A Cosmic Ray Trigger for LOFAR: First results

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We present the first results of an independent cosmic ray trigger for the multiple dipole-antenna radiotelescope LOFAR (LOw Frequency ARray). LOPES (the LOfar PrototypE Station), at the KASCADE (KArlsruhe Shower Core and Array DEtector) site in Germany has been initiated as a test case for LOFAR, and designed to detect air showers through coherent radiation pulses from air showers upon external triggers by particle detectors. To fully exploit the capabilities in detecting CRs with the final LOFAR telescope, however, an independent, radio-only trigger is needed, which has been developed from experience with LOPES and other LOFAR test stations. Here, we present the first results of the application of such a trigger, and discuss optimization of the different parameters.