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Toward the autonomous radiodetection of ultra high energy cosmic rays with CODALEMA

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CODALEMA is one of the experiments devoted to the detection of ultra high energy cosmic rays by the radio method.

So far, the device, installed at the radio-observatory of Nançay (France), has used in coincidence a ground particle detector array and an antenna array, connected by cable to a central acquisition room, for sampling a surface of 0.25 km².

Since the early 2011, the experience is the subject of a major evolution with the addition, all around the original radio setup, of a new radio network made of 60 autonomous radiodetection stations, spread over an area of 1.5 km².

This new configuration should allow both to deepen the interpretation of results and serve as a testbed for the mastery of this technology in the context of possible large-scale deployments.

The main characteristics of this new mode of operation will be presented in the light of recent results obtained by the conventional network CODALEMA.

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