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Digital radio detection of cosmic rays: achievements, status and perspectives

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Over the past decade, radio detection of cosmic rays has matured from small-scale prototype experiments to installations spanning several km^2 with more than a hundred antennas. The physics of the radio signal is well understood and simulations and measurements are in good agreement. We have learned how to extract important cosmic ray parameters such as the geometry of the air shower and the energy of the primary particle from the radio signal, and have developed very promising approaches to also determine the mass of the primary particles. At the same time, limitations, both technical and intrinsic to the radio emission physics, have become increasingly clear. I will review the progress made in the past decade, discuss where the field stands and provide a personal view on the limitations of the technique and further potential for future development.

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