

Executive summary

Radio Morphing is a semi-analytical tool that enables a fast computation of the radio signal emitted by any air-shower at any location. It is of primary importance to prepare up-coming large-scale experiments which require a fast and accurate method to model air-shower radio emission. We present here improvements of the version developed by Zilles et al. (2020) based on a scaling of the radio emission (i.e., electric field) of a Monte Carlo simulation and then an interpolation of the radio pulse at the desired positions. This new implementation, provides simulated signals with relative differences on the peak-to-peak amplitude of ZHAireS simulations below 10% for 91% of antennas while the computation time was reduced by more than 2 orders of magnitude compared to standard simulations.