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## A module for fast auto differentiable simulations

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The auto differentiable simulation is a type of simulation that outputs of the simulation contain not only the simulation result itself, but also its derivatives with respect to many input parameters. It provides an efficient method to study the sensitivity of the simulation result with respect to the input parameters and can be used in some gradient based optimization methods for fast parameter design optimization. In this paper, we report on the development of a fast auto differentiation module that can be used in many simulation codes.

### Footnotes

### Paper preparation format

### Region represented

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