

## Séminaire exceptionnel

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Mardi 07/05/2019, 11h00-12h00

Orme des Merisiers Salle Claude Itzykson, Bât. 774

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IPhT

## Open source alternatives to Mathematica

We discuss the pros and cons of a number of computer algebra systems, including Mathematica and some open source alternatives.

Mathematica has issues of cost and availability. We argue that a number of open source alternatives such as SymPy, SageMath, Maxima, or FriCAS, while generally less feature-rich, can meet the needs of IPhT researchers. SymPy is quite popular at IPhT, and its highlights include: proactive development, full Python compatibility and elegant syntax, and the Jupyter notebook interface. We demonstrate some basic and not-so-basic features of SymPy in a number of examples, including the derivation of the Schwarzschild black hole solution of Einstein's equations.

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