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Numerical methods with Sage. (English) [Zbl 1282.65001]

Summary: Numpy and SciPy are program libraries for the Python scripting language, which apply to a large spectrum of numerical and scientific computing tasks. The Sage project provides a multiplatform software environment which enables one to use, in a unified way, a large number of software components, including NumPy and SciPy, and which has Python as its command language. We review several examples, typical for scientific computation courses, and their solution using these tools in the Sage environment.

MSC:
65-01 Introductory exposition (textbooks, tutorial papers, etc.) pertaining to numerical analysis

Keywords:
numerical analysis teaching

Software:
SageMath; Jmol; PARI/GP; Python; CVXOPT; SageTeX; GAP; Tachyon; SINGULAR; R; NumPy; Matplotlib; SciPy

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