

Octave Conference 2017

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CERN



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Book of Abstracts

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Welcome to CERN

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Conference info

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Octave for N dimensions and microscope image processing

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Octave for Particle Accelerator Performance Optimization

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Publish your code with Octave

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Discussion

CERN Open Session / 7**25 Years of Octave: Recent Developments and Future Directions****Author:** John W. Eaton^{None}

GNU Octave (octave.org) development began in 1992. Now, 25 years later, the project is more active than ever before. This talk will touch on the history of the project, significant recent developments, and plans for the future.

GNU Octave is a free-software scientific programming language with a powerful mathematics-oriented syntax that is largely compatible with Matlab. It includes built-in plotting and visualization tools and can run in GUI mode, as a command-line application, or invoked as part of a shell script. Octave runs on a wide variety of systems, including GNU/Linux, macOS, BSD, and Windows.

CERN Open Session / 8**MOOC: Matlab and Octave for beginners****Author:** Simone Deparis¹¹ EPFL**Projects / 9****GSoC project: Exponential Integrators****Author:** Chiara Segala^{None}**Projects / 10****SOCIS project: Improve iterative methods for sparse linear systems****Author:** Cristiano Dorigo^{None}**Projects / 11****Discussion****Projects / 12****Support of free software in public institutions: the KiCad case**

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KiCad [1] is a tool to help electronics designers develop Printed Circuit Boards (PCB).

CERN's BE-CO-HT section has been contributing to its development since 2011 [2]. These efforts are framed in the context of CERN's activities regarding Open Source Hardware (OSHW), and are meant to provide an environment where design files for electronics can be shared in an efficient way, without the hurdles imposed by the use of proprietary formats.

The talk will start by providing some context about OSHW and the importance of using Free Software tools for sharing design files. We will then move on to a short KiCad tutorial, and finish with some considerations about the role public institutions can play in developing and fostering the use of Free Software, and whether some of the KiCad experience can apply in other contexts.

[1] <http://kicad-pcb.org/>

[2] <http://www.ohwr.org/projects/cern-kicad/wiki>

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KiCad demo

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KiCad: questions and discussion

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GSoC project: ode15{i,s}

Author: Francesco Faccio^{None}

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The future of the Neural Network package

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Technical overview of user code parallelization

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8/16-bit simulation with GNU Octave

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Status of Octave-Forge

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