Kale: Human-in-the-loop High Performance Computing with Jupyter

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Overview

- We try to do this. What?
- we try to do that.

Scientific HPC Systems

- Optimized for machine efficiency
- Assumes automated workflows
- Post-mortem analyses

Scientific Workflows Operated by Humans

- Manual inspection
- Manual intervention
- Experimentation and Dynamic updates during execution

Jupyter Interactive HPC

- Realtime Dashboards and Widgets
  - Batch Queues
  - Workflow status
  - Task resource use
  - Task file output
- Workflow Control Center
  - Build
  - Control
  - Interact

Development Environment

- Development Environment
- Remote kernels
- Resource details for debugging

Screenshot

This screenshot has nothing to do with our project.

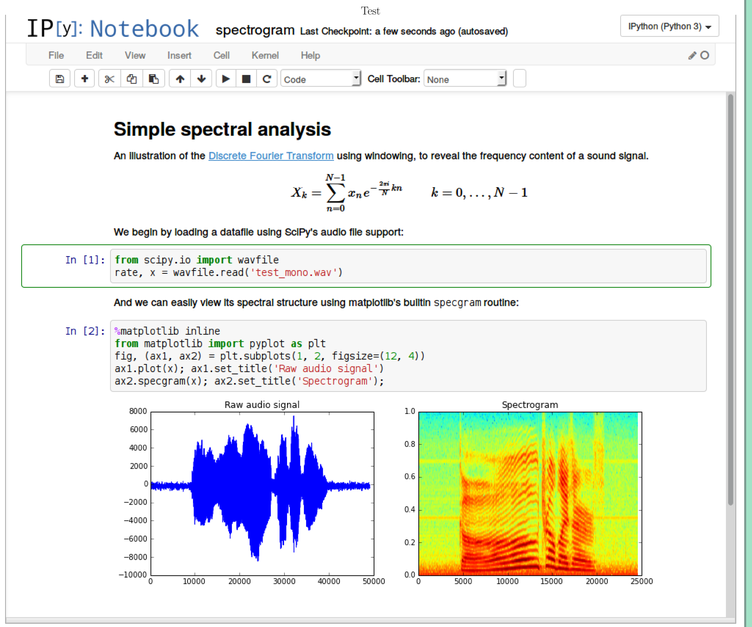

Fig. 1: Figures in tikzposter