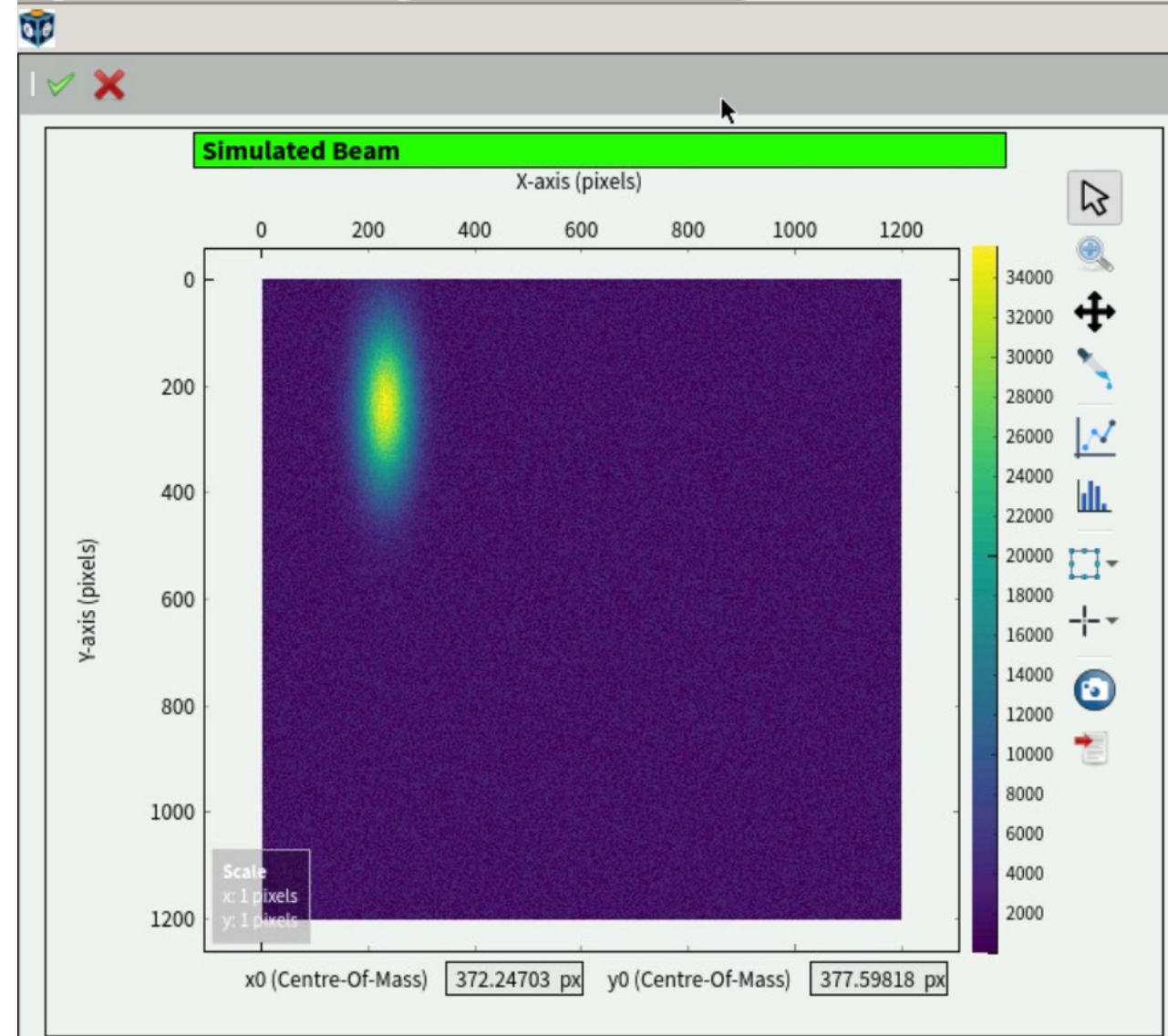


# The assumptions behind Machine Learning

- Jupyter notebooks gradually increasing complexity on ML topics.
- Some small exercises in-between.
- Detailed mathematical explanation of the methods in notebooks, so we can gain an understanding of how it works.
- Topics:
  - Basic line fits with uncertainties.
  - Representation Learning.
  - Simple non-linear extension of line fits.
  - Neural Networks (+ uncertainties).
  - Data classification with Support Vector Machines.
  - Gaussian Processes.
  - Bayesian Optimization.
  - Mixture Models.

# Hands-On Automation

- Implement a simulated Beam Stabilization system in the Karabo SCADA system using Python
- Perform scans on the unstabilized and stabilized beam



# Please choose a session here

- We might need to assign a few people different from their wish to balance the number of participants in each session

<https://syncandshare.xfel.eu/index.php/s/JqRTeTd78nWjEf>

