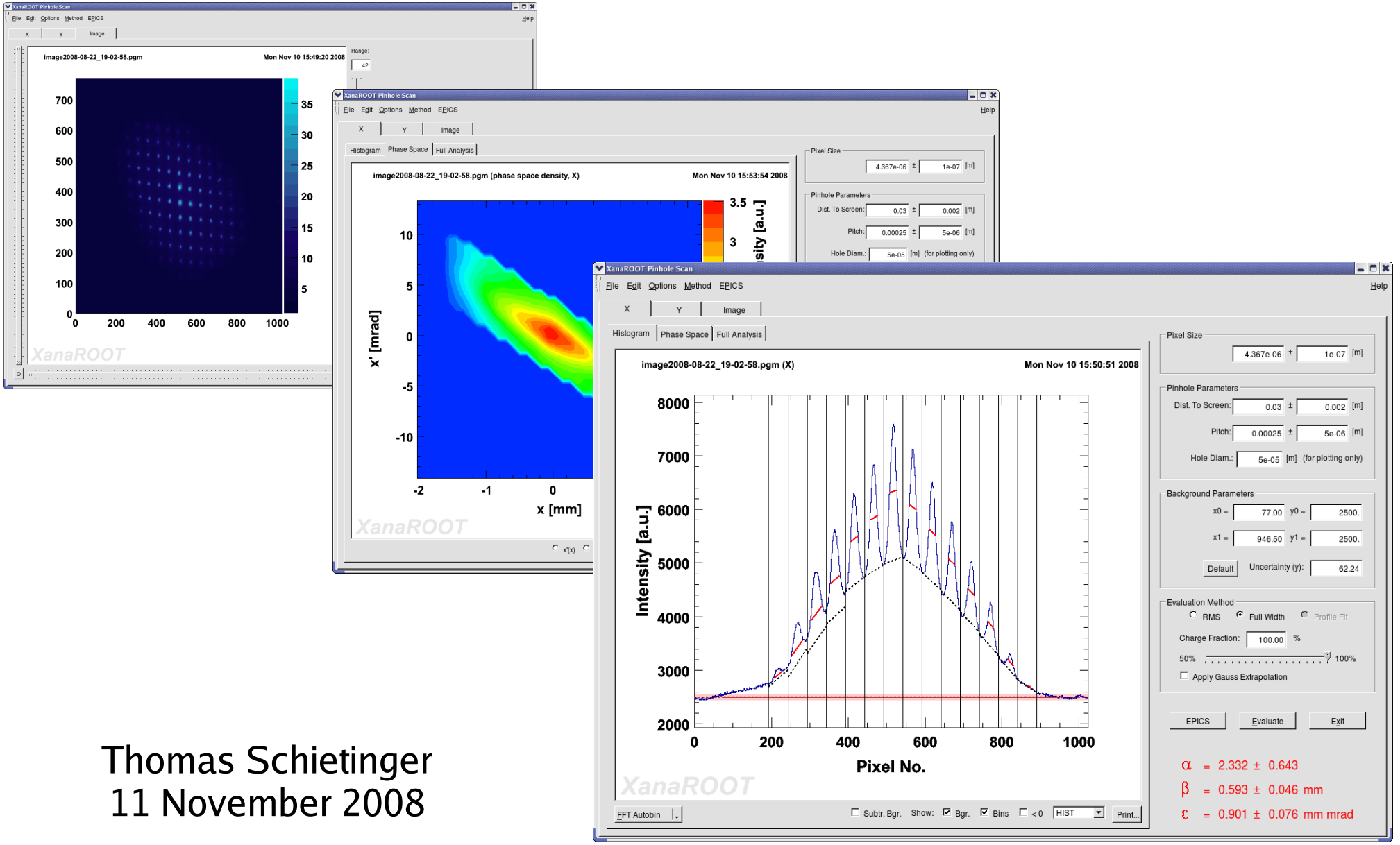
# Brief update on XanaROOT developments

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# Current construction areas

- Input/output:
  - More formats XanaROOT can receive data from / write results to.
  - **Most urgent is hdf5 (data format of choice in OBLA)**
    - But also other common image formats (for now only pgm is supported)
  - Longer term: receive data straight from EPICS and write emittance to an EPICS channel via the **CAFE library** (Jan Chrin, see presentation next FELSI meeting).

- "Online-ization":
  - Biggest hurdle is setting "bins" around beamlets. There is an "autobin" algorithm that looks for minima in the distribution, but usually requires human help (algorithm gets lost in background or confused by single spikes etc.).
  - New approach: **FFT to find first harmonic peak in distribution,** then set bins at this frequency. Successively throw away beamlets on the left and right edge that do not stand out above background.

- Beamlet characterization algorithm:
  - In general we are quite happy now (see Anne's talk).
  - One method still to be implemented: **full profile fit**
    - Gaussian beamlets on top of background described by cubic spline, use values from standard algorithm as inputs.

# ...and then also:

- Multiple images:
  - Load multiple signal images, subtract average of many background images etc.
- Implementation of slit method
  - For now we can simply add the images and apply the pepperpot analysis (but lose information from tails)
  - Profit from PITZ experience (Lazar)
- Image processing:
  - Rotation, ... (via image processing library)