

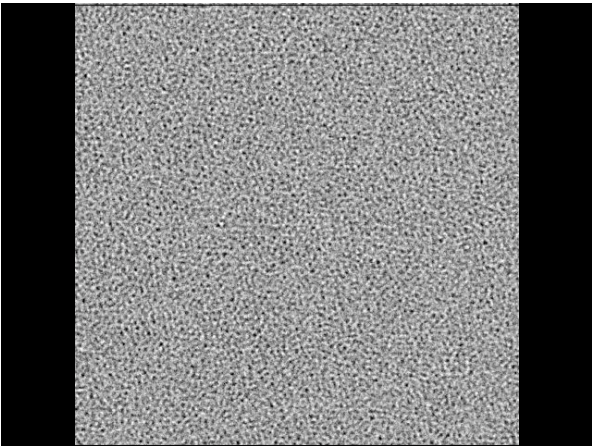
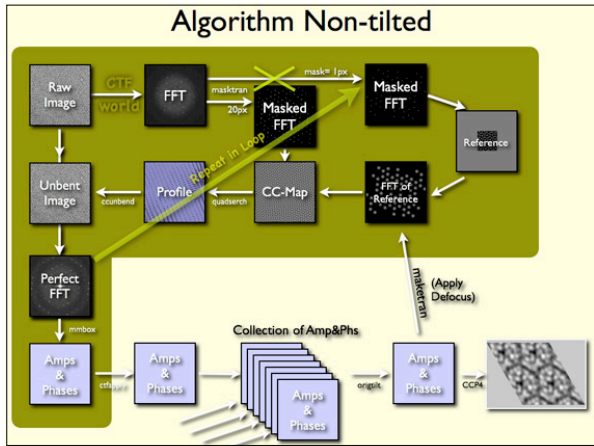
The 2dx Software

Introduction,
Crystal Processing,
Future Directions

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Outline

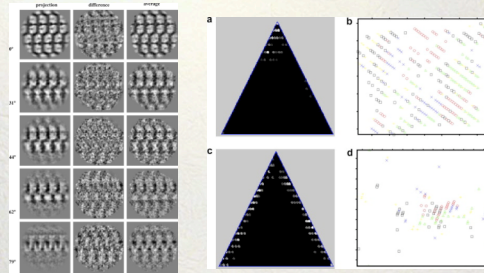
- ❖ The canonical crystallographic workflow
- ❖ 2dx - a detailed introduction
 - Undocumented features
 - Customization
 - Optimizations
 - Undocumented “features” (bug reporting)
- ❖ Future Directions
- ❖ Crystallographic Processing Jam Session



Generalized Workflow

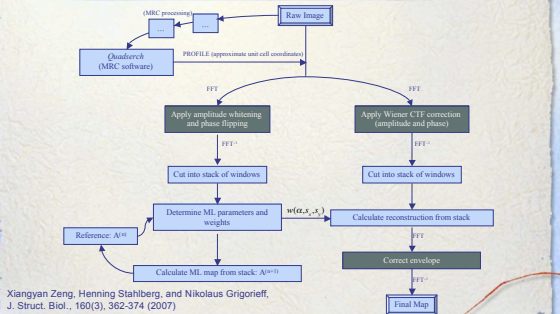
- Find particles
- CTF Correct
- Assign Euler Angles
- Average according to Euler Angle
 - Embed in Fourier space at Euler Angle
 - Equivalent to Back Projection
- Reconstruct with Mask

Applications



Single particle refinement in electron crystallography: A pilot study. Koeck, P. J. Purhonen, P. Alvang, R. Grundberg, B. Hebert, H. (2007). J Struct Biol. Vol. 160, Issue 2, pp. 344-52.

Maximum likelihood approach



Xiangyan Zeng, Henning Stahlberg, and Nikolaus Grigorieff, J. Struct. Biol., 160(3), 362-374 (2007)

Future Directions

- Single Particle(ish) processing
- Parallelization
- Visualization
- Practical Applications
 - Diffraction Processing
 - Helical Processing?

And Thanks To:



...And The Growing 2dx Community