HDRMX
Gold Standard

from the DIALS / xia2 perspective

Purpose of a Gold Standard

- Fixed conversion from whatever currency (format) you have to something you understand and trust

- Allows (trivial) conversion between monetary amounts (data) from different places

- Value of money (data) universally understood

Benefits for MX

- We already had this - imgCIF allowed full description - no one used it (outside Diamond)

- Means that the full geometry is understood without recourse to site files, photograph of beamline, …

- For Eiger is another chance since (being honest) no one really looks at image headers - they are not "human readable" - most beamline scientists will not interfere

- Detector vendor monoculture can help here - just need to make one (or ~ 1) API write the correct format

Possibilities for MX

- Include more information - if there are more data sets we need to process the data, add them - e.g. shadow maps
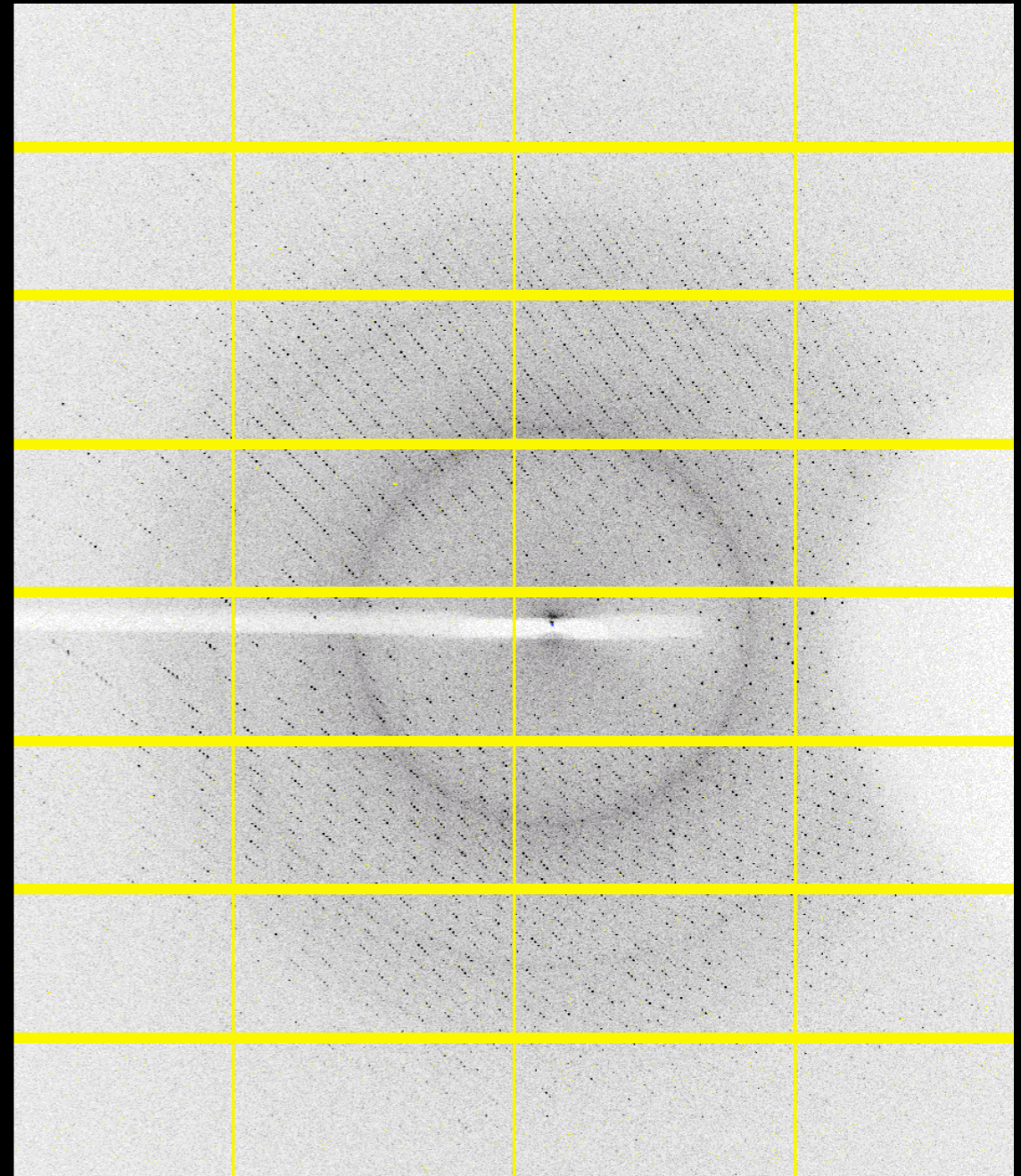
Possibilities for MX

- Can store multiple related data sets in one (logical) file - useful for complex sets, efficient collection e.g. multi-trigger data sets for *in situ*
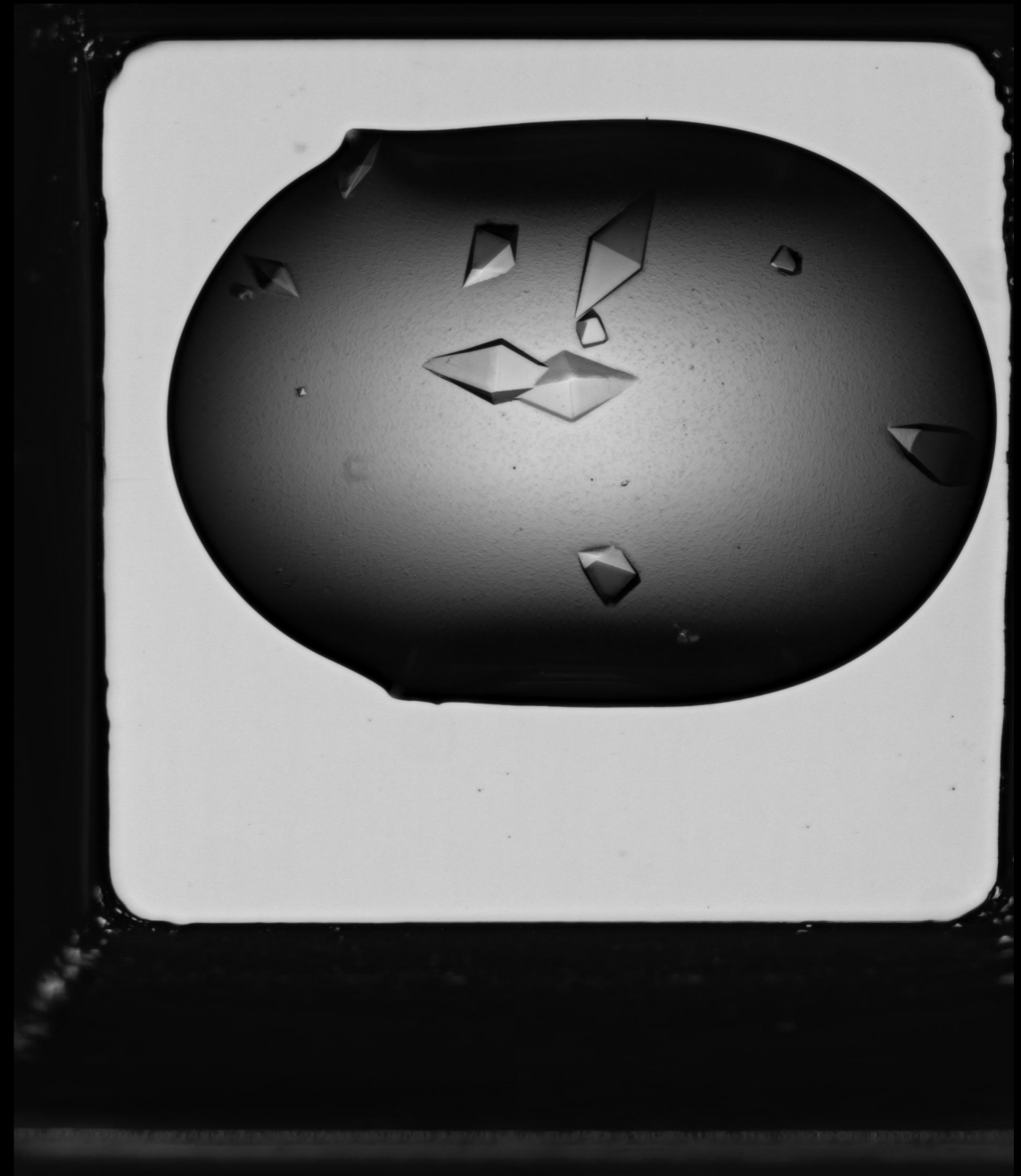
Open

Already have issues on GitHub for these -

- https://github.com/HDRMX/NXmx/issues/1

- https://github.com/HDRMX/NXmx/issues/2

so the provenance for new features can be known and motivation openly discussed…

Most obvious benefit

- Starting with HDF5 files, get to understanding of the experimental geometry every time

- Complex geometries can be explained

- Description is general - not fixed to any local coordinate frame