DirectILLReduction

- A Mantid *workflow algrorithm* for ILL's time-of-flight spectrometers.
- Data reduction for IN4, IN5, IN6.

Current status

- `DirectILLReduction` is basically usable, but
  - has too many properties.
  - is difficult to use.
  - is difficult to test.
  - is too big.

Algorithm split

- `DirectILLPrepareData`
  - Return (normalized) data, EPP table, flat background, energy calibration.
- `DirectILLDetectorDiagnostics`
- `DirectILLApplyDiagnostics`
- `DirectILLSelfShielding`
- `DirectILLApplySelfShielding`
  - Subtract empty container as well.
- `DirectILLIntegrateVanadium`
- `DirectILLReduction`
  - Actual reduction. Return $S(q, \omega)$ or $S(\theta, \omega)$.

Other functionality to be implemented

- Documentation.
- Absolute normalisation.
  - Waiting for self-shielding corrections as they have common input properties.
- Saving output to disk.
- Plotting.
- Detector efficiency.
- Vanadium Debye-Waller correction.
- Memory usage optimisation (IN5).

Plans for next sprint

- Fix bugs introduced in the Split.
- Unit tests.
- Documentation for the new algorithms.
- Design GUI.
- Fix smaller issues:
    - Spectrum number — Detector ID mismatch.
    - Get rid of properties: IndexType, DetectorsAtL2, Monitor.
    - Make vanadium's Debye-Waller correction optional.
- Try to get Paalman-Pings self-shielding corrections working.