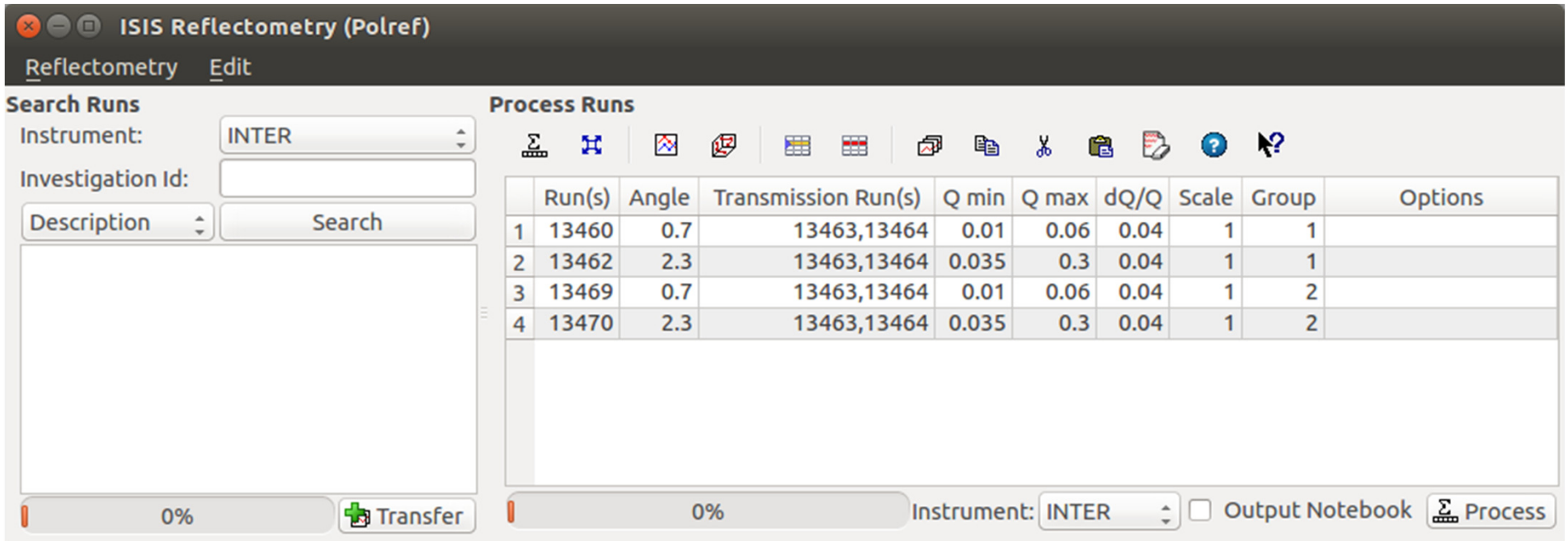
Data Processor UI

- Design document
  - Execute complex batch-processing via DataProcessorAlgorithms
  - Technique areas that have/need similar functionality
  - SANS (ANSTO + ISIS), Powder (SNS), SCD (SNS)
  - Reflectometry (Polref) GUI



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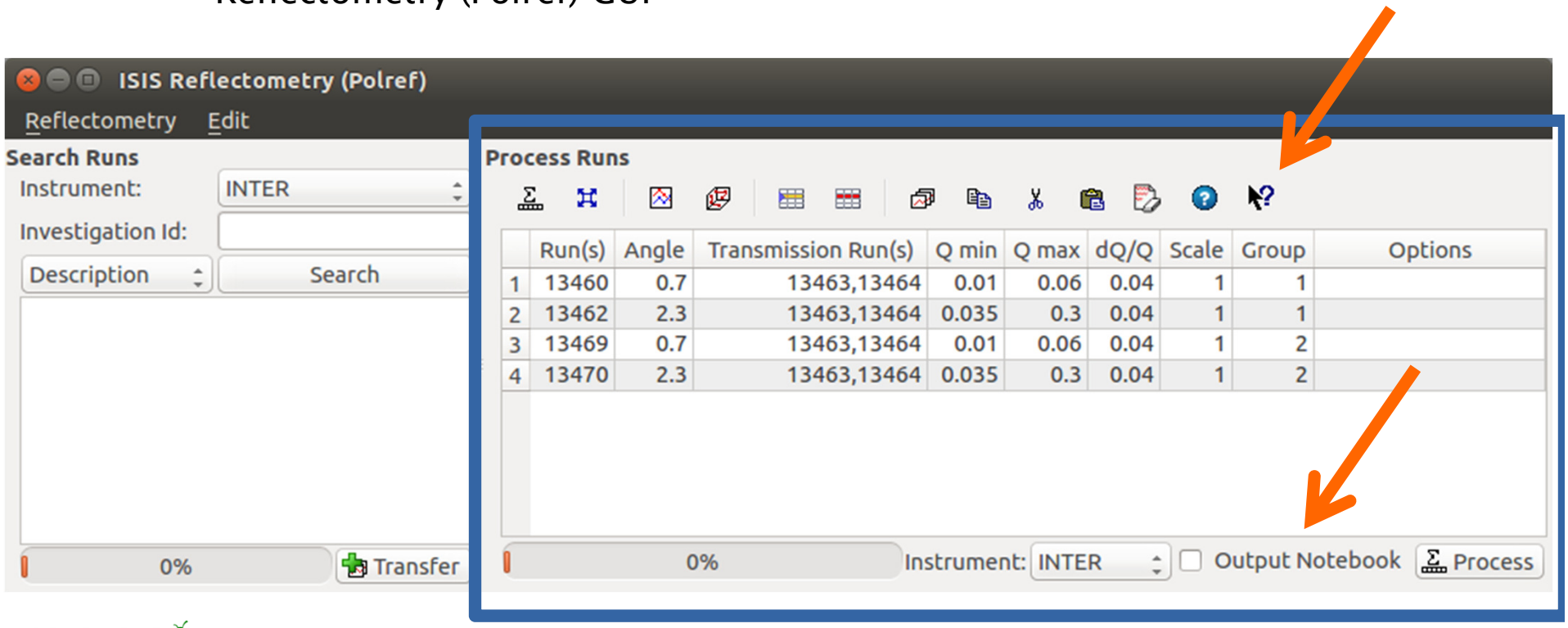

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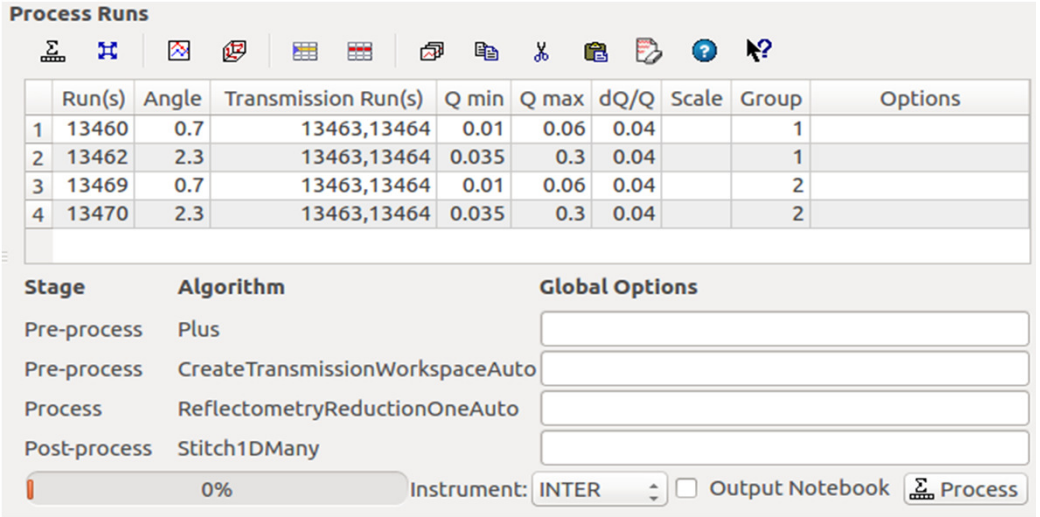
MVP

Data Processor UI

- How to create a table:
  - WhiteList
  - Pre-processing alg. (map)
  - Processing algorithm
  - Post-processing algorithm




```
DataProcessorWhiteList whitelist;
whitelist.addElement("Run(s)",
                     "InputWorkspace", "Sample runs to be processed");
whitelist.addElement("Angle", "ThetaIn",
                     "Angle used during the run");
whitelist.addElement("Transmission Run(s)", "FirstTransmissionRun",
                     "Transmission run(s) to use to normalise the sample runs");
```

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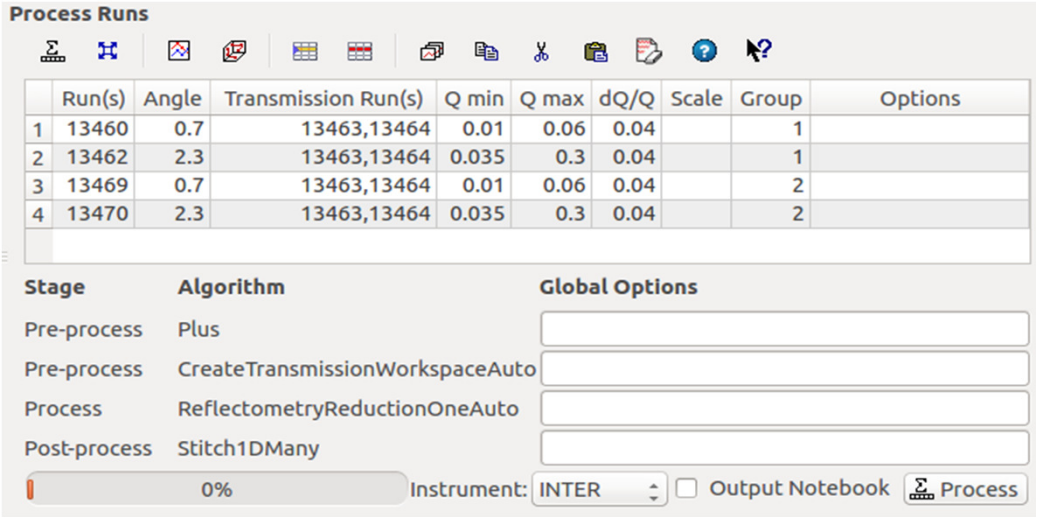


```
// Pre-processing instructions as a map:
// Keys are column names
// Values are pre-processing algorithms
std::map<std::string, PreprocessingAlgorithm> preprocessMap = {
        {"Run(s)",
         PreprocessingAlgorithm("Plus",
                                std::set<std::string>{"LHSWorkspace",
                                                      "RHSWorkspace",
                                                      "OutputWorkspace"})},
        {"Transmission Run(s)",
         PreprocessingAlgorithm("CreateTransmissionWorkspaceAuto",
                                std::set<std::string>{"FirstTransmissionRun",
                                                      "SecondTransmissionRun",
                                                      "OutputWorkspace"}}};
```

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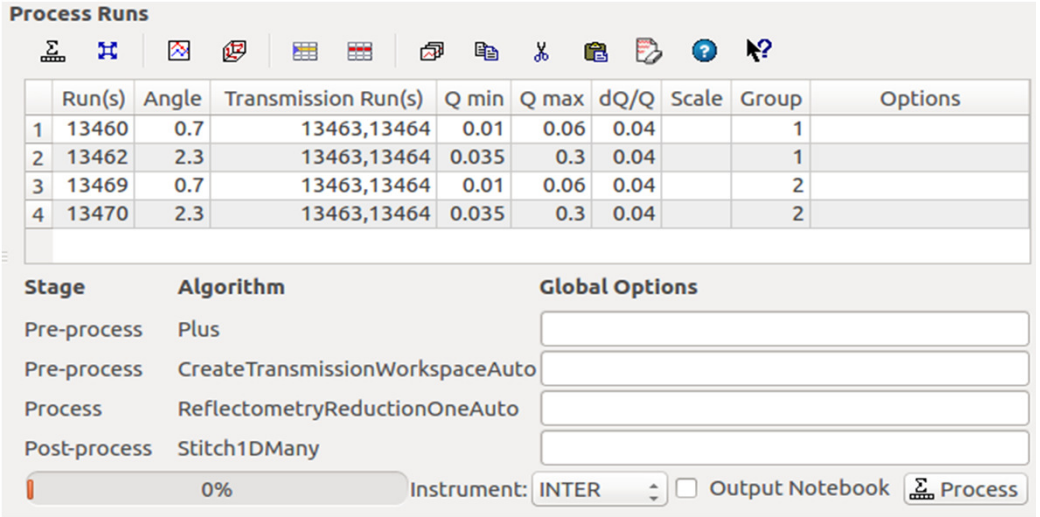


```
// The data processor algorithm
ProcessingAlgorithm processor(
            "ReflectometryReductionOneAuto",
            /*The blacklist*/
            std::set<std::string>{
            "ThetaIn",
            "ThetaOut",
            "InputWorkspace",
            "OutputWorkspace",
            "OutputWorkspaceWavelength",
            "FirstTransmissionRun",
            "SecondTransmissionRun",
            …});
```

```
// The post-processing algorithm
PostprocessingAlgorithm(
            "Stitch1DMany",
            "IvsQ_",
            /*The blacklist*/
            std::set<std::string>{
            "InputWorkspaces",
            "OutputWorkspace"})
```

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