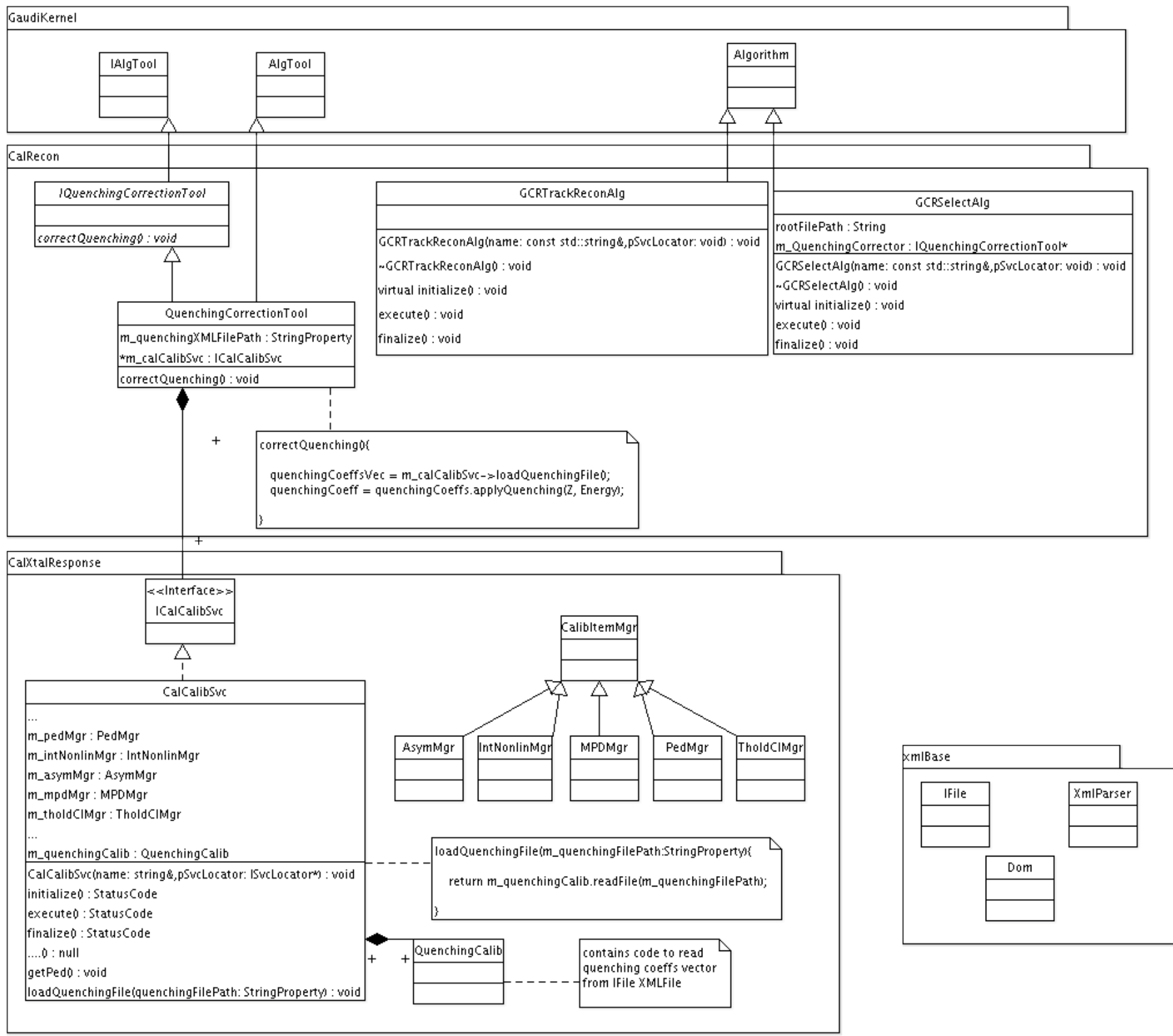# GCR Recon Quenching Corrections Specifications

2 different ways to access quenching "tables"

- By reading a local XML file (see next slide)

- By accessing TDS data via CalCalib and calUtil packages

  → calUtil package specifications to be respected:

    - new data calibration to be setup in metadata mySQL DB (Joanne Bogart)

    - dataFinder, Conversion Services and Gaudi Coverters (XML-TDS) to be provided

1st way could be developed as a starting point, and kept as an urgency way to access data (in the case TDS is not available)

GaudiKernel

IAlgTool

AlgTool

Algorithm

CalRecon

IQuenchingCorrectionTool

correctQuenching() : void

GCRTrackReconAlg

GCRTrackReconAlg(name: const std::string&,pSvcLocator: void) : void

~GCRTrackReconAlg() : void

virtual initialize() : void

execute() : void

finalize() : void

GCRSelectAlg

rootFilePath : String

m_QuenchingCorrector : IQuenchingCorrectionTool*

GCRSelectAlg(name: const std::string&,pSvcLocator: void) : void

~GCRSelectAlg() : void

virtual initialize() : void

execute() : void

finalize() : void

QuenchingCorrectionTool

m_quenchingXMLFilePath : StringProperty

*m_calCalibSvc : ICalCalibSvc

correctQuenching() : void

+

```
correctQuenching(){

    quenchingCoeffsVec = m_calCalibSvc->loadQuenchingFile();
    quenchingCoeff = quenchingCoeffs.applyQuenching(Z, Energy);

}
```

+

CalXtalResponse

<<Interface>>
ICalCalibSvc

CalibItemMgr

CalCalibSvc

...

m_pedMgr : PedMgr

m_intNonlinMgr : IntNonlinMgr

m_asymMgr : AsymMgr

m_mpdMgr : MPDMgr

m_tholdCIMgr : TholdCIMgr

...

m_quenchingCalib : QuenchingCalib

CalCalibSvc(name: string&,pSvcLocator: ISvcLocator*) : void

initialize() : StatusCode

execute() : StatusCode

finalize() : StatusCode

....() : null

getPed() : void

loadQuenchingFile(quenchingFilePath: StringProperty) : void

AsymMgr

IntNonlinMgr

MPDMgr

PedMgr

TholdCIMgr

```
loadQuenchingFile(m_quenchingFilePath:StringProperty){

    return m_quenchingCalib.readFile(m_quenchingFilePath);

}
```

+   +   **QuenchingCalib**

contains code to read
quenching coeffs vector
from IFile XMLFile

xmlBase

IFile

XmlParser

Dom

Some points to discuss

- Structure of XML quenching file

- Possibility of using Zach's CalXtalResponse CalCalibSvc package for both:

    - quenching correction
    - GCRCalib calibration outputs

- Others...