Abstract

This document describes the general architecture of the BornAgain project.

1 Data classes for simulations and fits

1.1 The Experiment object

The Experiment class holds all references to data objects that are needed to perform a simulation. These consist of a sample description, possibly implemented by a builder object, detector and beam parameters and finally, a simulation parameter class that defines the different approximations that can be used during a simulation. Besides getters and setters for these fields, the class also contains a runSimulation() method that will generate an ISimulation object that will perform the actual computations. The class diagram for Experiment is shown in figure 1.

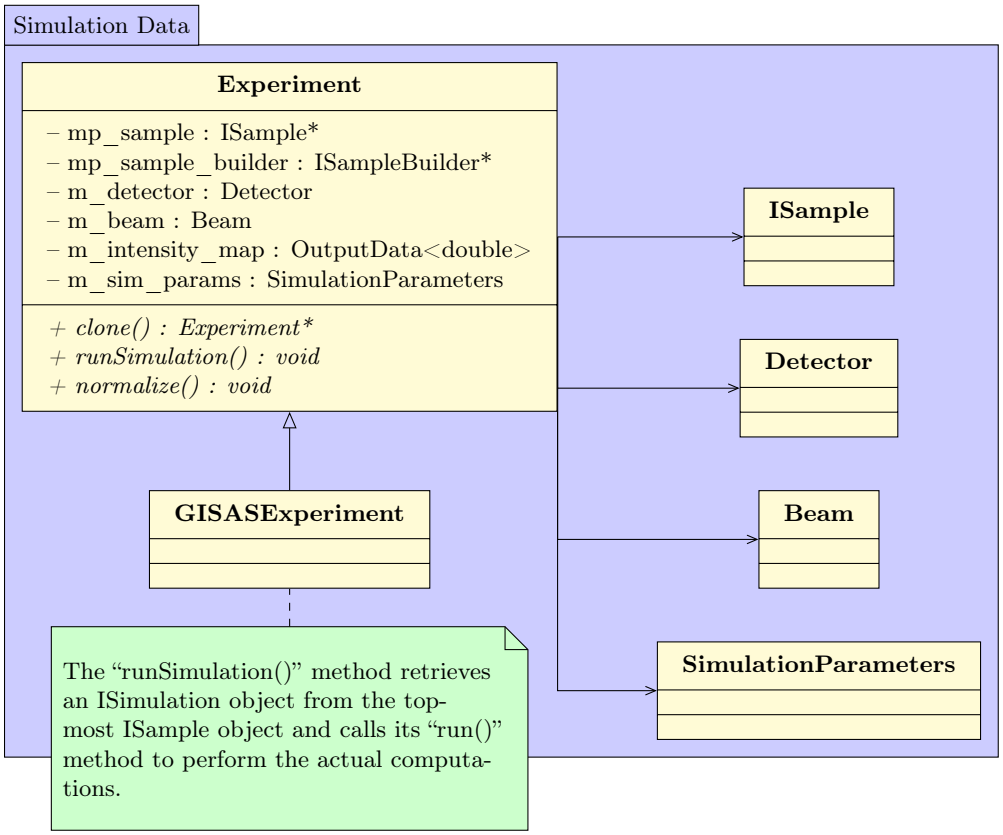

Figure 1: The Experiment class as a container for sample, beam, detector and simulation parameters.

Samples are described by a hiërarchy tree of objects which all adhere to the

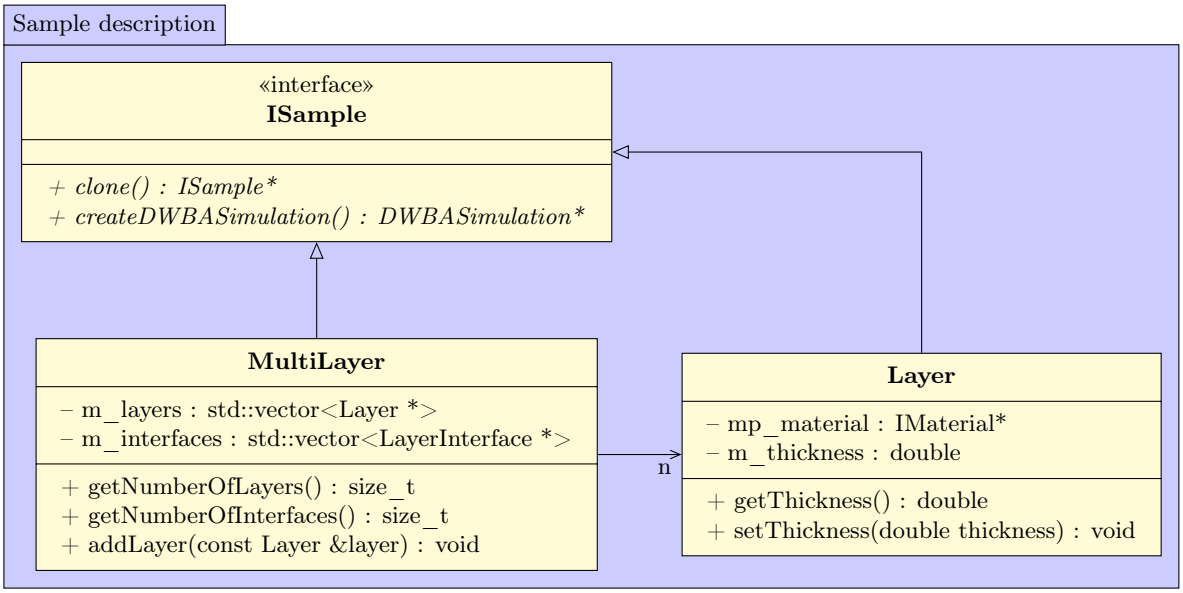

Figure 2: The ISample interface

ISample interface. This interface and two of its subclasses are sketched in the next figure.