

Scientific Programming Using Object-Oriented Languages

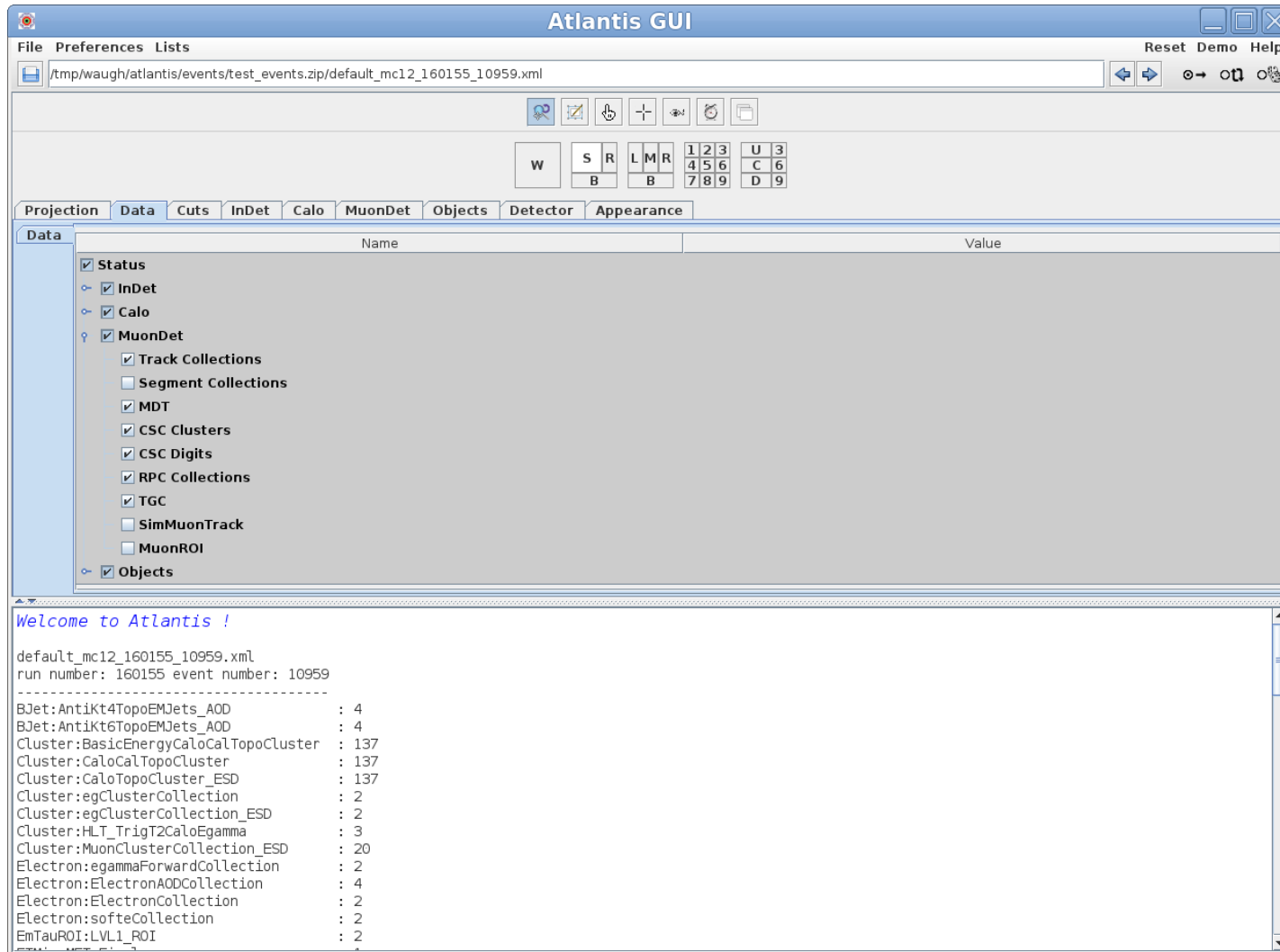
Module 9: Graphics

Aims of Module 9:

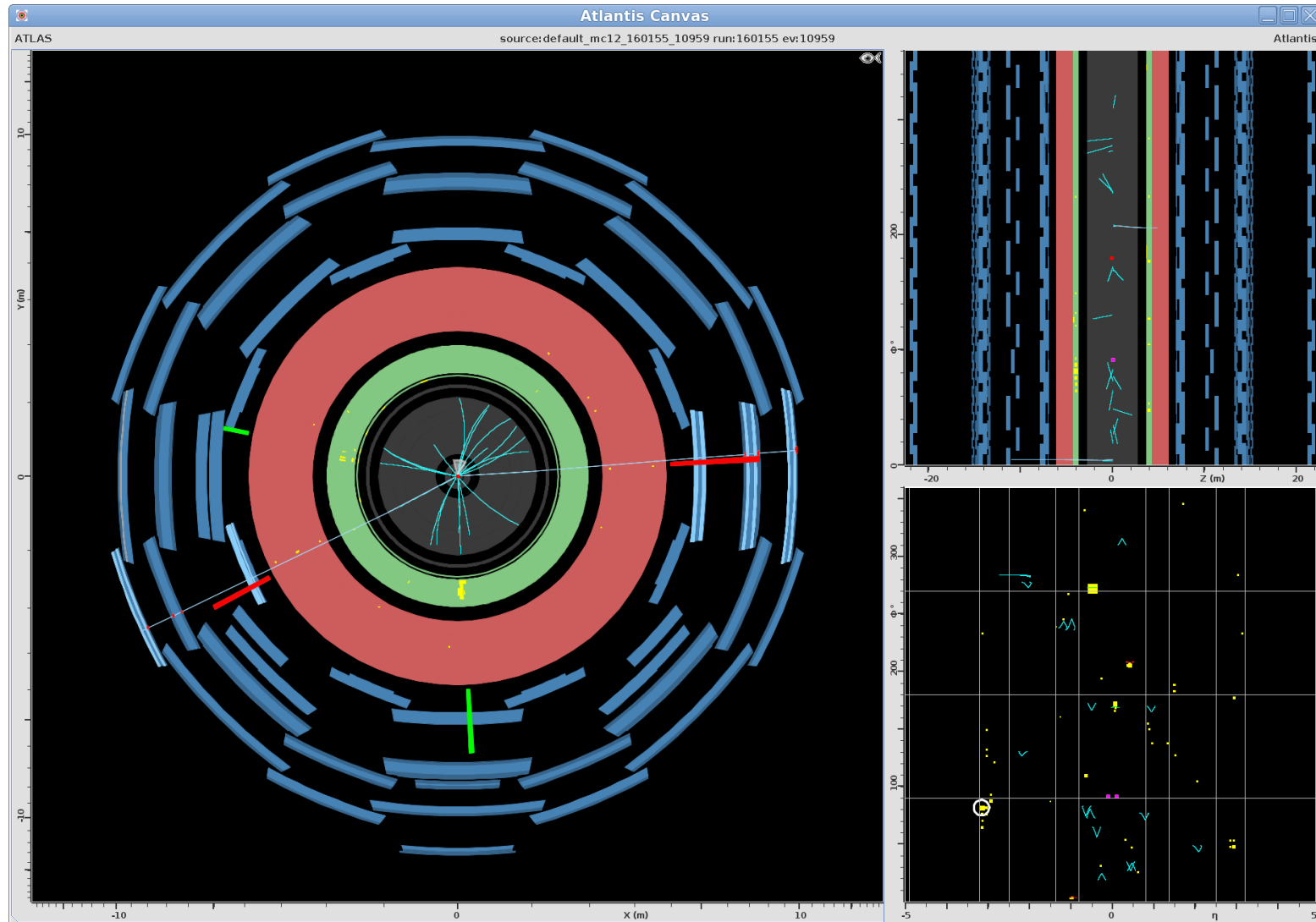
After this module you should be able to

- create a Java application with a simple graphical user interface;
- create a Java application that produces an animated graphical display;
- use event-driven programming in a framework.

Graphical User Interfaces (GUIs)



Graphics and Animation



Event-Driven Programming

- Your programs so far
 - start with a main method on a single thread
 - can start other threads
 - do everything in the order determined by the code
 - call methods in libraries when needed
- Frameworks
 - Instead of your code calling library methods ...
 - ... the framework calls your code.
- Event-driven programming
 - Program needs to respond to “events”.
 - e.g. The user clicks a button or selects a menu item.
 - The framework calls appropriate code to deal with each event.
 - You specify what code to call in what circumstance.

The Swing Framework

- Components
- Events
- The Event Dispatch Thread (EDT)
- Code example