EDNA
The new generation environment for diffraction data collection
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EDNA will be a new generation environment for automation of the collection of X-ray diffraction data from macromolecular crystals, developed on the foundations of the project automateD collectioN of datA (“DNA”, www.dna.ac.uk). This new environment is based on a modular architecture capable to invoke the appropriate third party program in order to fully automate the crystal characterization (indexing and integration) and the generation of a realistic and appropriate data collection strategy that will take radiation damage into account.

The Main Goal
The aim is to develop a configurable application able to launch sequentially the crystal characterization and the data collection strategy steps by executing one or several parallel external programs according to the user configuration:
- Indexing (MOSFLM and/or XDS and/or other)
- Integration (MOSFLM and/or XDS)
- Radiation damage estimation (RADDose)

Data collection strategy (BEST)

Architecture
A modular system based on a plugins factory mechanism and multi-thread management (AALib)
A programming language that allows the integration of EDNA with the python and Java worlds (Python/Jython)

Current status
Development framework:
- Main classes (plugins hierarchy, configuration facilities)
- Data classes, code generation from UML (XSD data binding)
- Automated Tests Framework (Unit and validation Tests)
- IDE: Eclipse / Data Modeling: Enterprise Architect
- Source and Bugs Management: Subversion, Bugzilla

Implementation of scientific cases:
- Indexing plugin (MOSFLM)
- Radiation damage estimation plugin (RADDose)

Web Site: www.edna-site.org

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