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BornAgain: Software for GISAS and Reflectometry

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BornAgain is an open-source software package to model and fit SAS, GISAS, and reflectometry. It has been designed to fully reproduce the functionality of the standard software IsGISAXS, allow for hierarchical sample models of arbitrary complexity, in particular, support multilayers with arbitrary inclusions that may extend across layers, support neutron polarization and magnetic scattering, provide a graphical user interface for sample construction and fitting, give advanced users full control through Python scripting. After extension to reflectometry, BornAgain is currently undergoing thorough refactoring to facilitate future maintenance and prepare for the addition of new functionality. Among them SAS by crystalline 3D structures, fully generic slicing of cross-layer particles, source or detector below horizon, comprehensive handling of parameter distributions.

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