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PyPWA: A Partial-Wave/Amplitude-Analysis Software Framework

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We are developing a software framework for Partial Wave and Amplitude Analysis called PyPWA. The PyPWA project aims to develop modular and flexible software that links to existing codes and Python libraries. The software also provides direct access to the JLab computing resources. The software contains a general-shell where amplitude's parameters (or any parametric model) can be estimated from the data. The package also includes software to produce simulated data-sets. Another component contains a specific realization of the isobar model in polarized photo-production (with room to include Deck-type diagrams and other isobar model extensions). We are also implementing Bayesian's type model selection and global minimization (using Nestle - a nested MC) and parallelism and vectorization using the Intel's Xeon Phi family of coprocessors.

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