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MIEZEPY: An Open-Source Tool for Efficient MIEZE Data Reduction

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MIEZEPY is an open-source software package designed for the efficient reduction of data acquired in the MIEZE (Modulation of Intensity with Zero Effort) mode. MIEZE is a neutron resonant spin echo technique that enables the measurement of the intermediate scattering function, $S(Q, \tau)$, in depolarizing sample environments, such as under high magnetic fields. This technique is implemented at the RESEDA (Resonance Spin Echo for Diverse Applications) spectrometer at MLZ, which offers sub- μeV energy resolution and an exceptional dynamic range (~ 8 orders of magnitude). MIEZE generates a complex four-dimensional dataset that is easy to manipulate using the user-friendly, intuitive interface of MIEZEPY. Our software allows users to quickly reduce their data and extract $S(Q, \tau)$ in a streamlined, hassle-free manner!

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