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BEAMS: A New User-Friendly Program for Analyzing μSR Data

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To support the continued growth of μSR, it is important to encourage prospective new users by minimizing any barriers to entry to the μSR community. As with any other scientific approach, one such barrier to entry can be the software tools necessary to extract useful information from the data. Although excellent software options for μSR currently exist, in our experience, students and other new μSR practitioners often struggle to learn how to use these tools. For this reason, we have developed BEAMS, a comprehensive, user-friendly computer program for μSR data analysis designed to complement existing μSR programs as an accessible entry point into μSR data analysis. BEAMS is an open-source, python-based graphical program that enables interactive inspection of μSR data and flexible fitting of mathematical functions to asymmetry spectra through non-linear least-squares optimization. The program currently accepts data from TRIUMF, PSI, and ISIS. The software is available for Windows, Mac, and Linux operating systems through a simple installation procedure. The source code, helpful tutorial videos, and detailed documentation are available at https://github.com/FrandsenGroup/beams to help new users take advantage of BEAMS as an easy-to-use tool for analyzing μSR data.

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