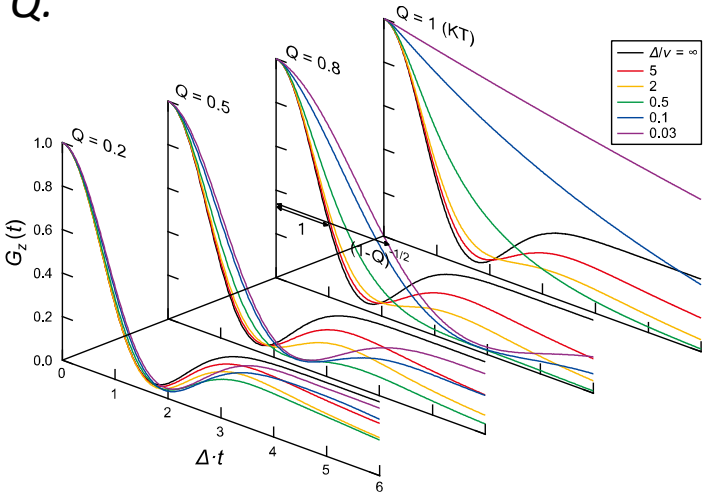
What is this?

The dynGssEAZF.tar.gz contains a set of source files that implement the zero-field muon spin relaxation function defined in J. Phys. Soc. Jpn. **93**, 044602 (2024) as a user function for musrfit.

This function describes muon spin relaxation in fluctuating local fields that exhibit the Edwards-Anderson-type autocorrelation, parameterized with Δ, ν, and *Q*.



For more information, see: T. U. Ito and R. Kadono, Distinguishing Ion Dynamics from Muon Diffusion in Muon Spin Relaxation, J. Phys. Soc. Jpn. **93**, 044602 (2024). DOI: 10.7566/JPSJ.93.044602

Limitation of the current version (v.1.0.0):

- Only the zero-field condition is supported.
- The function returns 0 when given parameters are out of range.

  Supported ranges: $0 \leq \Delta^* t \leq 6$, $\nu \geq 0$, $0 \leq Q \leq 1$

Installation

Requirements: musrfit/ROOT running environment on any platform (see the musrfit document for more information)

1. Unpack dynGssEAZF.tar.gz

2. Move to the generated directory

3. Edit the “INSTBASE” variable in makefile to fit your installation location
(By default, header and library files will be installed in $ROOTSYS/include/ and $ROOTSYS/lib/, respectively)

4. Make and make install

Usage

The typical call through the msr-file would be

```
###################################################################
FITPARAMETER
#     Nr. Name      Value     Step     Pos_Error  Boundaries
      1 Alpha       1.        0.01     none       0       2
      2 Asy         0.25      0.01     none       0.1     0.3
      3 Q           0.5       0.01     none       0.3     1
      4 Delta       0.2       0.01     none       0.15    0.25
      5 nu          1.5       0.01     none       0       10

###################################################################
THEORY
asymmetry     2
userFcn  libdynGssEAZFLibrary.so   dynGssEAZF     3    4   5  (Q  Delta nu)

###################################################################
```