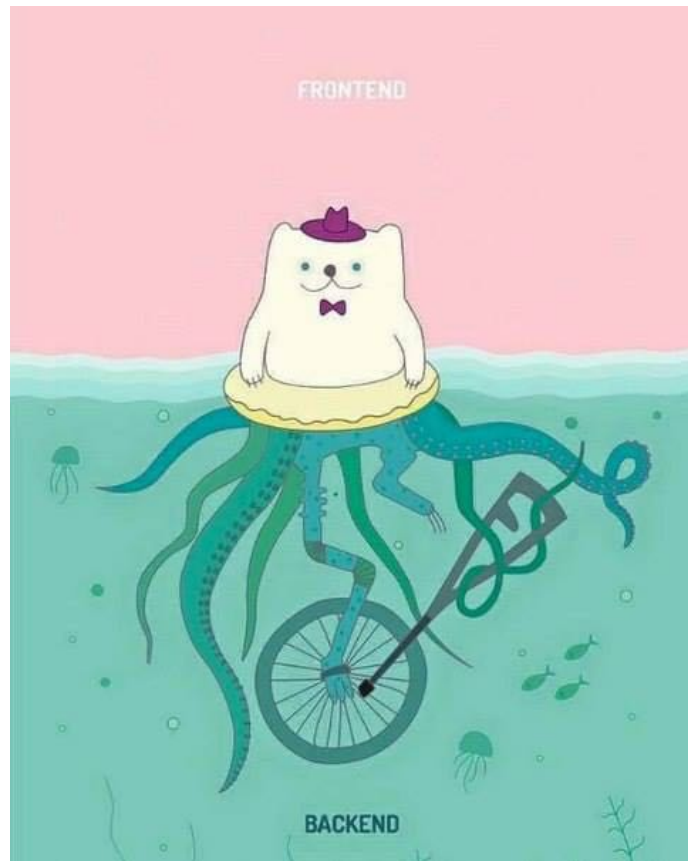


amsmath age



ADDIE User Manual

ADvanced DIffraction Environment

Data reduction software for NOMAD

February 23, 2017 version

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$$\sum_{i=0}^{\infty} a_i x^i \quad (1)$$

Chapter 1

Introduction

1.1 What is ADDIE

The ADvanced Diffraction Environment (ADDIE) is User software for reducing and analyzing data on the **Nanoscale Ordered MAterials Diffractometer** (NO-MAD) instrument at the **Spallation Neutron Source** (SNS). Now, with a full plate of acronyms, let's begin.

ADDIE provides a graphical user interface (GUI) to interact with the underlying data reduction software. ADDIE aims to guide the workflow to go from launching the reduction of raw neutron data to provided processed individual runs, post-processing of these individual runs by applying optional corrections and summations, finally to visualization and output of the diffraction and pair distribution function data.

ADDIE is pre-installed on the Analysis cluster at the SNS (<http://analysis.sns.gov>). Instructions are provided for Neutron Sciences users to setup the Remote Desktop capabilities to view, analyze and download your data from anywhere you go. Options are provided Windows, Mac, and Linux. Also, contact support information is provided in the case of any issues or needed troubleshooting.

ADDIE is also available open-source. Please contact your Local Contact from NOMAD if you would like to know more about the repository (or to contribute!)

1.2 Using ADDIE

ADDIE development has been funded by the [US Department of Energy](#) (DOE).

If you use ADDIE results in your published work, please cite the following papers:

(INSERT - ADDIE paper) (INSERT - other reduction dependencies - Mantid, GUDRUN, etc.)

For any of the following features for your published work, please cite the associated papers:

(INSERT - specific feature papers)

From the following, you can download a [BibTex file with all citations](#).

Chapter 2

Getting Started

2.1 Background

This is what you are trying to do:

$$I = \frac{(S - S_B) - \alpha(C - C_B)}{(V - V_B)} \quad (2.1)$$

Chapter 3

Workflow for Data Reduction

Just a test

3.1 Launch reduction of individual runs

3.1.1 Load input

3.2 Post-Processing of runs

3.2.1 Load Runs into Table

3.2.2 Selection of Runs

3.2.3 Selection of Post-Processing

3.2.4 Launch Post-Processing

3.3 Visualize Bragg Diffraction

3.3.1 Load Bragg data

3.3.2 Adjust Graphs

3.4 Visualize $S(Q)$ and $G(r)$

3.4.1 Load $S(Q)$ data

3.4.2 Adjust $S(Q)$ graphs

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3.4.3 Load $G(r)$ data

3.4.4 Optimize $G(r)$