

Plans for PSI BVR 55 & 2024 & beam time request

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Feb. 2024 BVR Presentation Options

We will submit a full written progress report.

We have been asked to suggest what type of presentation we want to give based on whether we are requesting “major” beam time.

- Likely presentation options
 - 30 min. progress report at open users meeting
 - Half day review by a specially appointed committee

Possible beam time requests (e.g. 7-10 days):

PiE5 measurements

LXe Prototype measurements

LYSO measurements

PiE5 Measurements

One of our most pressing needs is to establish the feasibility of using PiE5 to reach the flux, phase space, and particle separation requirements for PIONEER:

Example requirements:

Pion stopping rate in ATAR: 300 kHz

Fraction of beam in ATAR: 85%

pi, mu, e fractions (%): 80, 10, 10

Prerequisites for requesting beam time:

Analysis of results of previous beam time measurements

G4 Beamline simulation:

Demonstration or proposal for modifications to meet requirements

Prospect of improvements from A.I. study

Detailed measurement plan

LXe Prototype Measurements

Prerequisites for requesting beam time (PiM1 or PiE1):

Credible plan for Xe supply, mechanical, cryo, storage, purification, electronics, r/o systems, tasks and person power to fully operate system 2-3 months in advance of beam.

– Chloé's talk yesterday

Based on current status and the possibility of Japanese group funding for this beginning in 2024, this test will be postponed to 2025.

LYSO Prototype Measurements

Prerequisites for requesting beam time (PiM1 or PiE1):

Analysis and interpretation of 2023 measurements showing promise of achieving goals

Plan for next step e.g. repeat of setup; new crystal prototypes, Or need to repeat the measurements.

This option could be left open by making a tentative request for PiM1 beam.