

BRIDGE2023, uSR/MIXE subgroup

- From KPW2022: beamlines
 - *Agreed to organize dedicated workshop to discuss beamline simulations for PSI and J-PARC in detail* → to be done
- 2023: transverse polarization in decay muon beam (R. Khasanov), at 100 MeV/c. It would be interesting to try at $p < 50$ MeV/c at D-line at J-PARC. Also interesting for mu-SR.
- 2023 DAQ, file formats, analysis software: J-PARC & PSI provide all mSR data formats; Wimda and musrfit used by users.
- 2023 uSR data: J-PARC data open after 1 year; PSI uSR data and runlog can be accessed through a web server.
- 2023 webtools for data analysis (musrfit) and trimsp available for PSI data. Software available in git repositories, could be used by other facilities.
- 2023: **workshop about beamlines, DAQ, analysis software, instrumentation of mu+/mu- including all muon facilities would be very useful.** Vertex reconstruction at J-PARC and PSI.
- 2023: J-PARC analysis of transient uSR (NIM A paper in November 2023)

BRIDGE2023, uSR/MIXE subgroup

- From KPW2022: slow muons/uSR setup
 - *Agreed to support exchange of ideas and arrange mutual visits, especially for the young people; first visit from J-PARC at PSI mid of August. 1 PSI PostDoc to J-Parc in Dec 2022.*
 - *Exchange experiences in extraction schemes for ultra-slow muons, beamline transport simulations using musrSim; check also with g-2 extraction scheme. Added after the workshop: joint development of musrSim code? (currently in a git repository in PSI intranet): started. musrSim is now on bitbucket.*
 - *uSR setups: sample preparation and sample transfer in vacuum, load-lock systems, cryostat systems → open.*
 - *Mu 1s-2s experiments at J-PARC and ETHZ/PSI: intention to organize a meeting/workshop between Japanese groups and P. Crivelli group at ETHZ. T. Prokscha will contact P. Crivelli. Both groups made contact prior to BRIDGE2023.*
 - *Interest in continuing collaboration, either by mutual visits and/or future workshops → open*
- 2023: J-PARC planning to try a solid rare gas moderator for ultra-slow muon production.

BRIDGE2023, uSR/MIXE subgroup

- From KPW2022: neg. muons/MIXE
 - *Multiple common problems exist*
 - *(user friendly) analysis of spectra*
 - *corrections of spectra*
 - *efficiency calibration of setup*
 - *High interest in a continued collaboration and regular exchange of problems and solutions.*
- → open
- 2023: determination of total number of mu- in a sample (memory chip) at J-PARC; idea to use Mg activation and measure ^{24}Na activity to calibrate absolute number of muons at J-PARC. <10% accuracy needed. Activation possible at PSI.
- 2023: analysis of spectra, joint project with Swiss Data Science Center started at PSI.
- 2023: summer school/workshop for MIXE
- 2023: a common database for MIXE reference measurements would be VERY useful.
- 2023: future uSR conference with dedicated session for “community projects” between the muon facilities