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Super-MuSR: Building the Next Generation ISIS Muon Instrument

Super-MuSR is a project to upgrade the MuSR beamline at ISIS to significantly increase its resolution and counting rate as part of the ISIS Endeavour programme of new and upgraded instruments. Here we report on project progress and component test results.

The beamline upgrade will add pulse slicing and spin rotation capabilities that increase the time resolution by a factor of ten and allow this improvement to be used for higher transverse field measurements. The new spectrometer uses scintillators read out by SiPMs with digitiser-based electronics. This will lead to a twenty-fold improvement in counting rate. The digitiser outputs are streamed to a software based event formation and processing system to generate event data, which is now being prototyped on the HiFi and MuSR instruments.

Further details of the project and team members are available at

https://www.isis.stfc.ac.uk/Pages/Super-MuSR.aspx

Email

Funding Agency

Supervisors Name

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