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Small Sample Measurements at the Low Energy Muon Facility of PSI

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The low energy μSR (LE-μSR) spectroscopy is primarily used to study thin films, surfaces, and interfaces of materials. However, because of the large beam spot and low implanted muons rate, LE-μSR measurements on small samples are difficult, requiring an optimal sample area of 25×25 mm^2. Recently, we have boosted our ability to measure small samples, down to 5×5 mm^2 area by beam collimation and tuning. This advance is crucial for measurements of many magnetic and superconducting samples. Furthermore, we have devised a method that allows us to measure five small area samples mounted together on the same sample plate. We expect this method to further improve the efficient use of beam at LEM.

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