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**Improved Timing Resolution using digital pulse shape processing**

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NSCL/MSU — At fragmentation facilities radioactive isotopes are identified using a combination of energy loss and time-of-flight measurements. At the NSCL, the time-of-flight is measured between a scintillator placed at the intermediate dispersive image of the A1900 fragment separator and a detector immediately preceding the experimental station. To increase the rates of radioactive isotopes delivered to the experimental station the momentum acceptance of the A1900 is increased. Maintaining satisfactory particle identification with larger momentum acceptance requires correcting the time-of-flight of the radioactive isotope based on their position at the intermediate dispersive image. The correction is currently derived from standard analog circuits using timing filter amplifiers, constant fraction discriminators, and TAC modules. Digital pulse-shape processing may offer the possibility to reduce the timing uncertainty in the position determination thus improving the sensitivity of the particle identification. Preliminary results will be presented.

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