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New Detection System for Heavy Element Research

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New detection system design for heavy element research with ^{48}Ca projectile has been reported. This system is based on application of 32 position sensitive strip PIPS detector and low pressure pentane filled TOF detector application in ^{48}Ca induced nuclear reactions. To suppress beam associated background products new version of real-time method of “active correlations” has been applied. Examples of applications in $^{249}\text{Bk}+^{48}\text{Ca}$ and $^{243}\text{Am}+^{48}\text{Ca}$ reactions are presented. The system development to operate together (in parallel) with the digital ORNL (TN,US) detection system to provide a quick search for ER-alpha correlation chains has been discussed too. In that case the system operates with DSSTD large area Micron Semiconductors detector.

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