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## Development of Time-over-Threshold ASICs for radiation sensors

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Time-over-Threshold (ToT) method is a time width signal processing applied to various area such as high energy physics and medical application. It can obtain not only a trigger timing information as an output signal rise edge, but also an incident radiation energy as an output signal time width. We have been developing ToT processing based ASICs for gamma-ray imaging devices. The current mode ToT ASIC for MPPC realizes high timing performance. For improving ToT's non-linearity between time width and incident radiation energy, we also developed dynamic ToT ASIC and slew-rate limited type ToT ASIC.

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