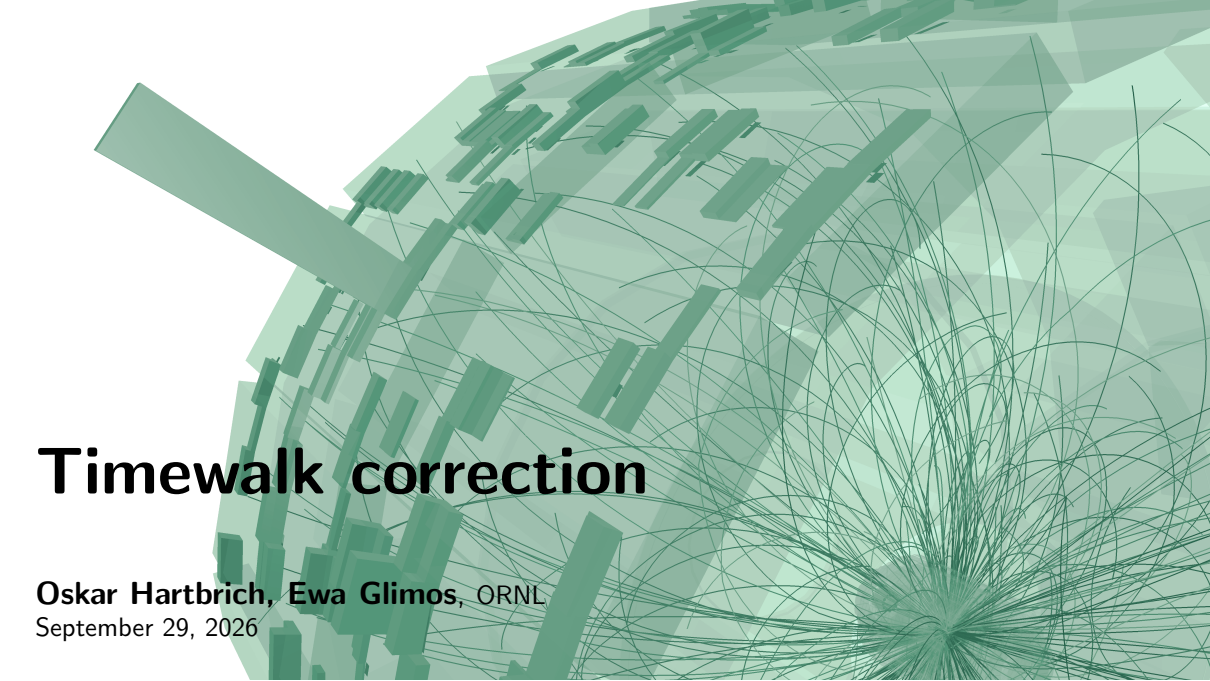


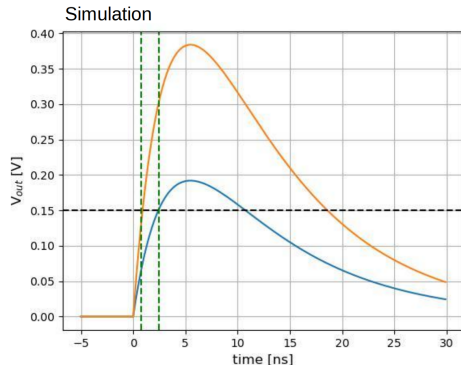
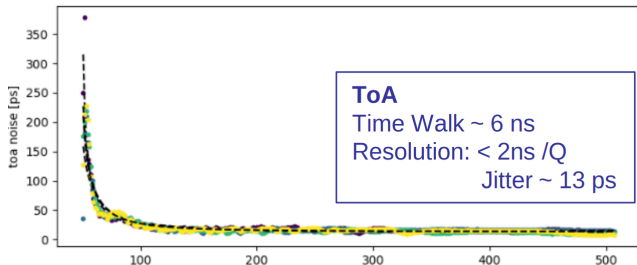
The background is a complex, abstract composition in various shades of green. It features a large, semi-transparent sphere that serves as a base for a network of thin, dark green lines. These lines radiate from a dense, grass-like cluster at the bottom right and connect to numerous rectangular blocks of varying sizes and orientations scattered across the sphere's surface. The overall effect is one of dynamic, interconnected geometry.

Timewalk correction

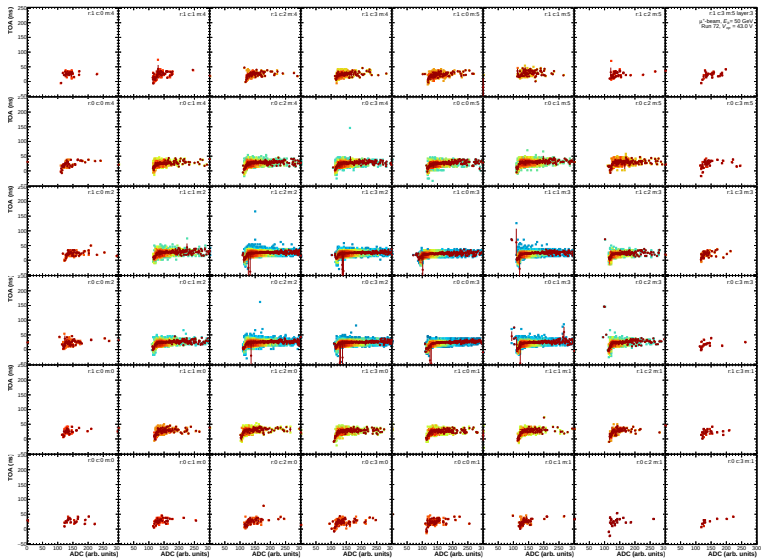
Oskar Hartbrich, Ewa Glimos, ORNL
September 29, 2026

Timewalk correction:

- threshold voltage is reached at different times for signals with different amplitudes
- the larger the signal, the smaller the timewalk



TOA vs max ADC



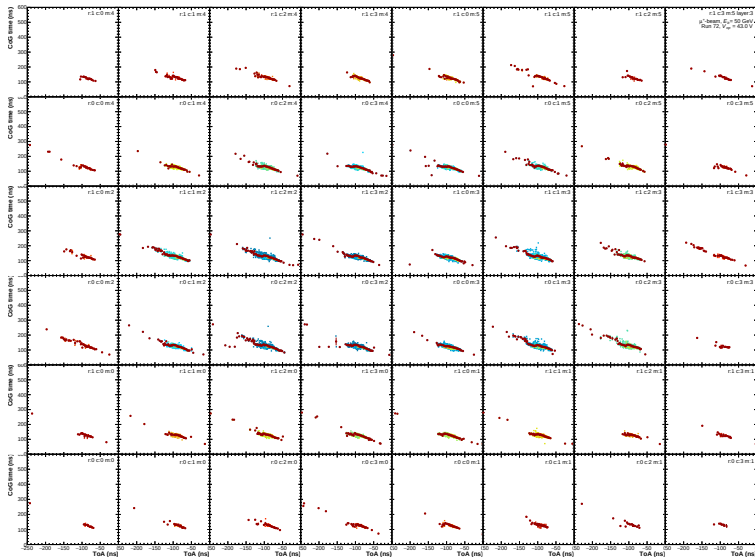
Center of Gravity

(Waveform) Center of Gravity:

$$t_{\text{CoG}} = \frac{\sum w_k t_k}{\sum w_k}$$

- $w_k = \text{ADC}_k - \text{ped}$: weight of sample k
- $t_k = (k + \text{offset}) \cdot 25 \text{ ns}$: time of sample k , not corrected for TOA, offset = 2
- k_{max} : index of the maximum ADC sample in the waveform
- sum restricted to the 5 samples $k_{\text{max}} - 2 \dots k_{\text{max}} + 2$
- excludes waveforms with saturated ADC

TOA vs CoG



CoG vs max ADC

