



Figure 14. X-ray induced phase-pulse measured at 26 mK for a 300 nm aluminium KID with $Q = 187.7 \times 10^3$. Averaged over 10 similar ‘short’ pulses. The fit is a sum of two exponential decays with time constants $\tau_1 = 13 \mu\text{s}$ governing the early part of the decay and $\tau_2 = 100 \mu\text{s}$ governing the later part of the decay. The inset plot shows the rise times of four individual x-ray event pulses of different magnitudes.