distribution has been obtained by gating on wider area on the high energy side close to the peak and normalizing to the prompt part of the spectrum of the non-background subtracted isomer events.

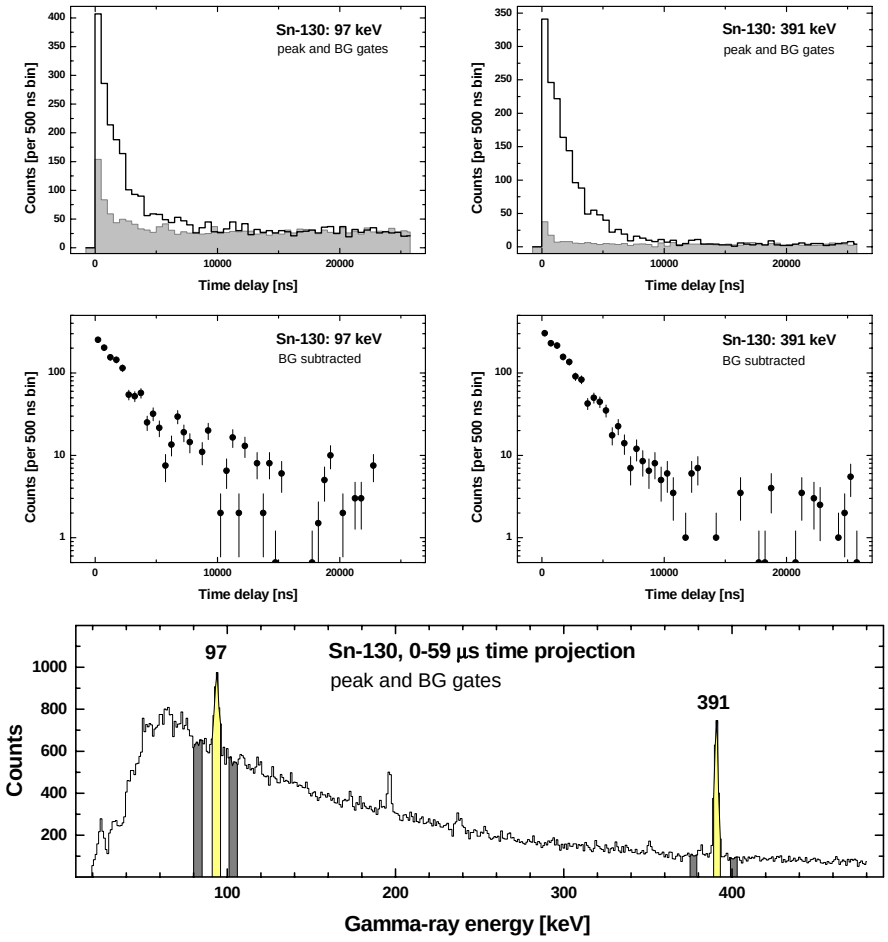

Figure 4.8: Time distribution curves of the 97 keV and 391 keV gamma-lines below the known $I^{\pi} = 10^{+}$ isomer in ^{130}Sn. In the uppermost panels the non-background subtracted time distributions of the two gamma-rays are plotted. The background distributions are shown by the grey areas. The background subtracted data are presented in the two middle panels. The background is determined by gating on both sides of the peak as shown in the lowermost panel.

By fitting the background subtracted time distribution of a given transition the half-life of the corresponding isomeric level can be determined. According to a criterion in Ref. [40], page 252, if the slope of the measured time spectrum is 1.5-2.0 times the prompt slope, then simple slope fitting gives an accurate result. In Figure 4.9 two examples where a slope fit has been applied are presented. For some cases where the