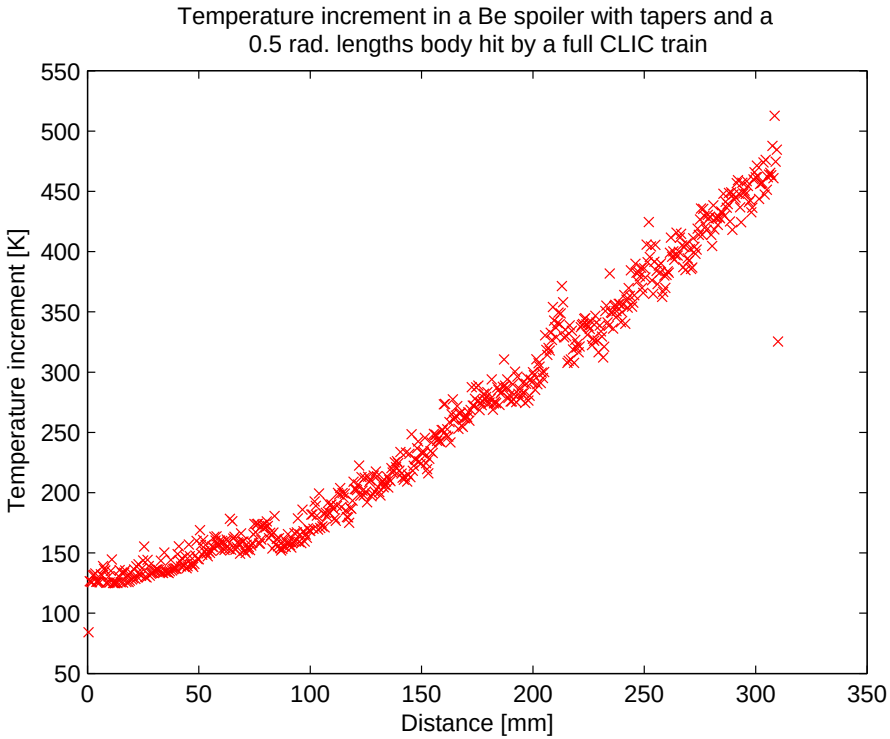
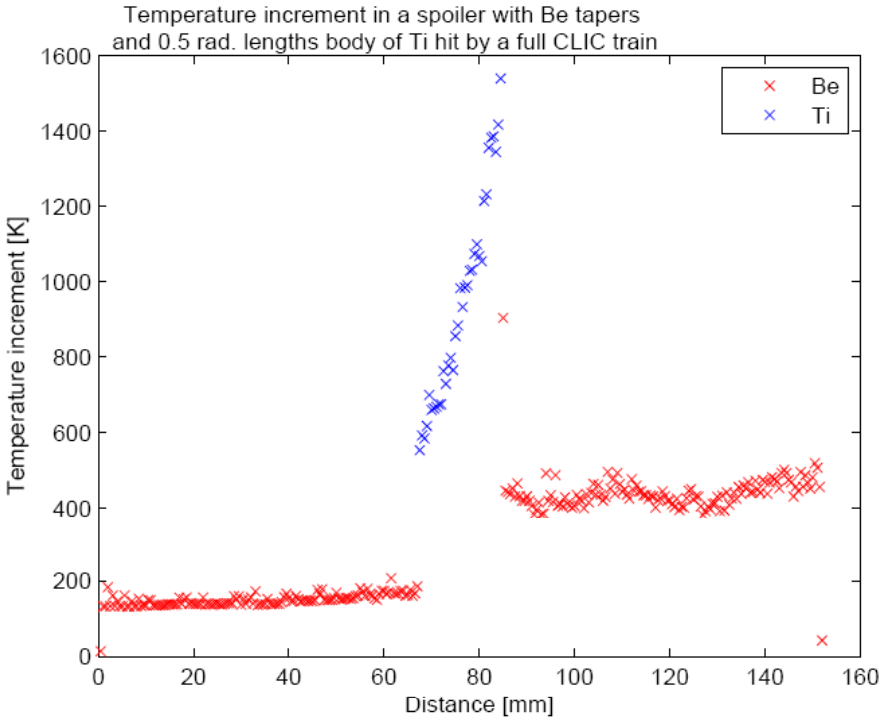
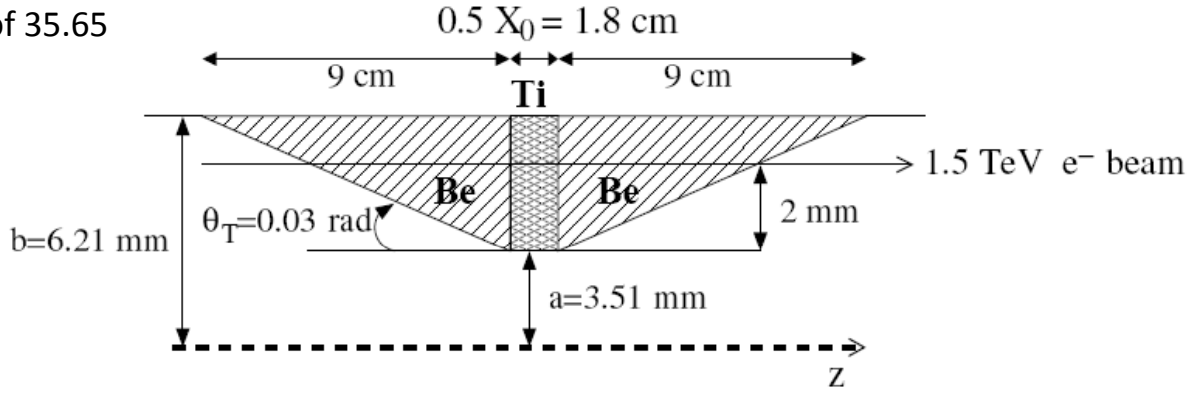




Will not reach melting temperature (1267 K) but it will reach fracture temperature (370 K)

0.5 X_0 of Be is 17.65 cm
The total length of this spoiler would be of 35.65 cm

Ti alloy (Ti6Al4V) reaches a temperature just under melting temperature (1941 K) and would surpass fracture temperature (1710 K) if ambient temperature is above 110 K. Too close a call...



A full Be spoiler would fracture in worst case scenario, using Ti alloy would fracture as well and it could melt in worst case.

While it is relatively clear what reaching melting temperature on the spoiler would suppose: material being blown into the vacuum vessel, irregularities on the surface of the spoiler, etc;

it is not clear what the effects of a micro-fracture would imply. Therefore further studies are needed to understand the effect of fractures on spoiler properties as well as research other spoiler configurations that would allow full survivability.

This studies should be done in parallel with a wakefield study to optimise the design, both using numerical codes and test beam experiments, as have already been done for the ILC spoilers.

Design of a system that would detect damage in the spoilers.

Studies of activation and dose rate to prototype model due to beam halo and photons using FLUKA.

Beam damage studies. Stress wave test beam.