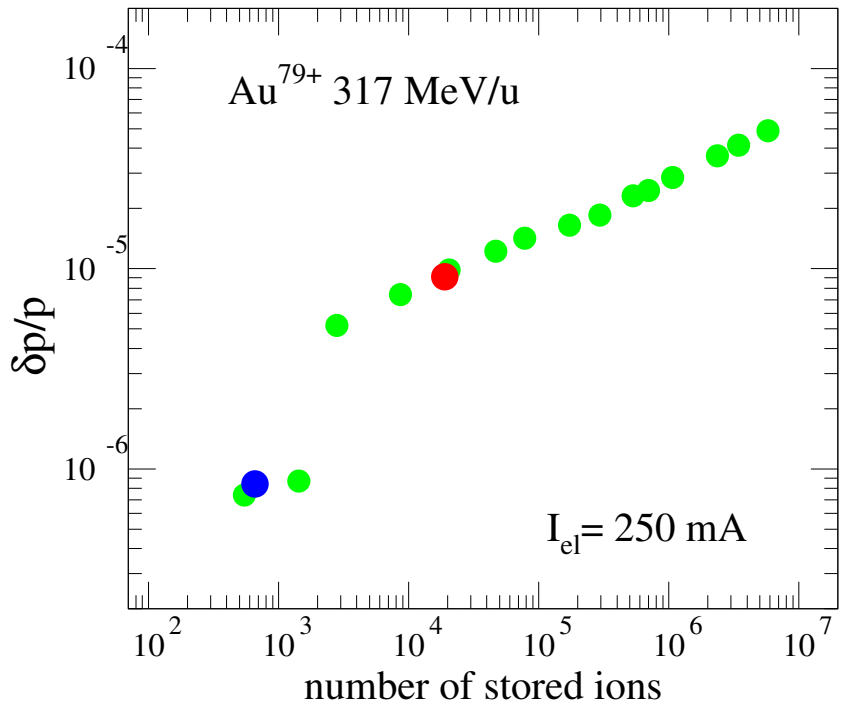
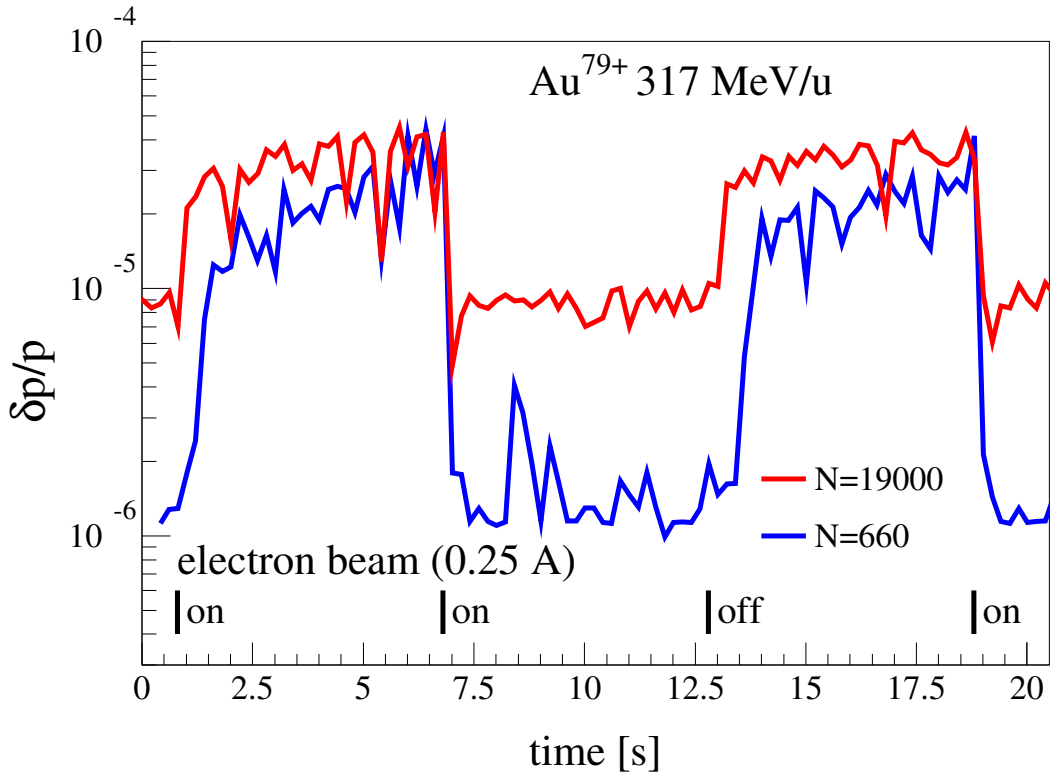
# Absence of Heating for Cold Beam




**heating of the ultracold ion beam starts with a delay of about 1 s (correspondig to about $10^6$ revolutions)**