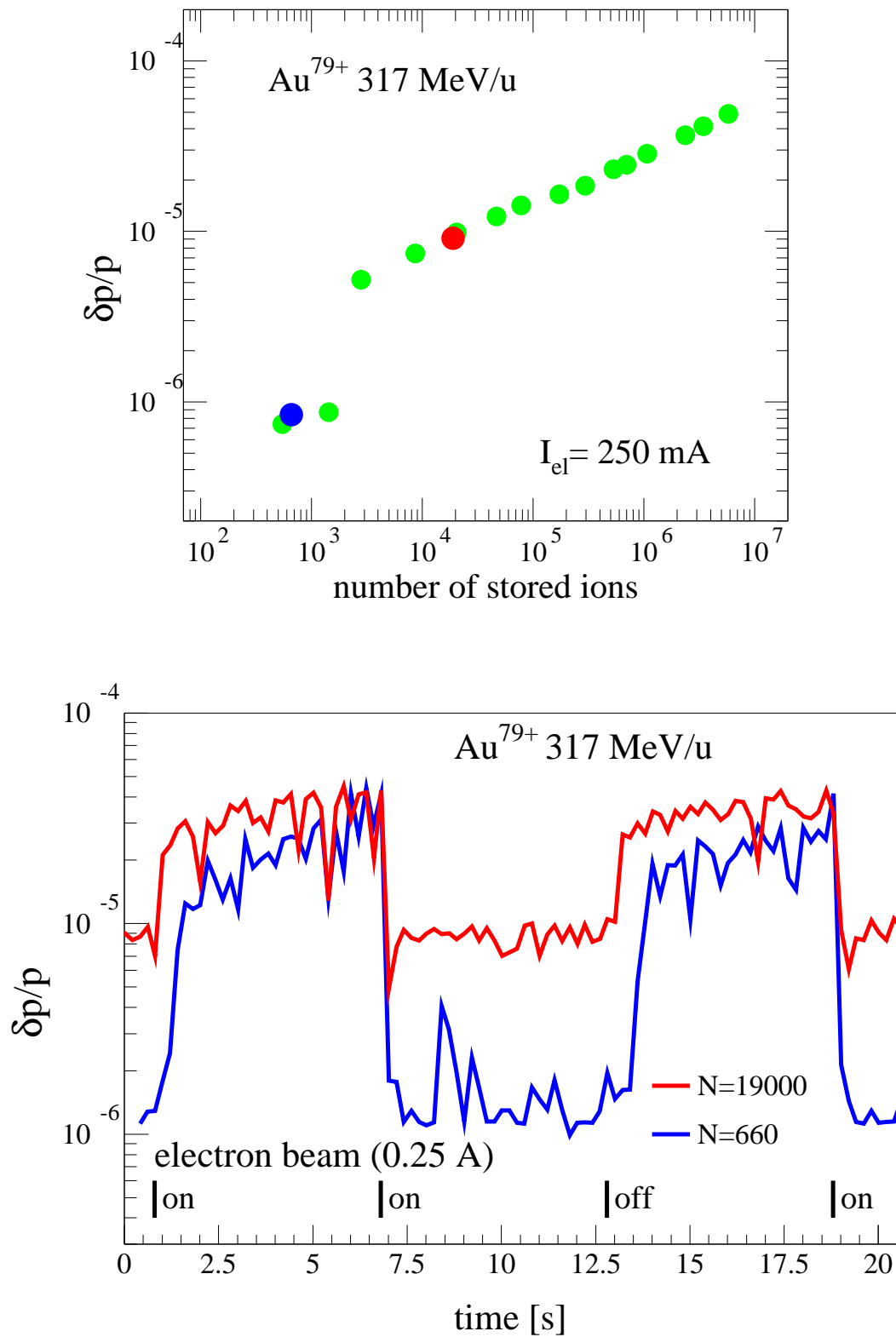


# Absence of Heating for Cold Beam



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