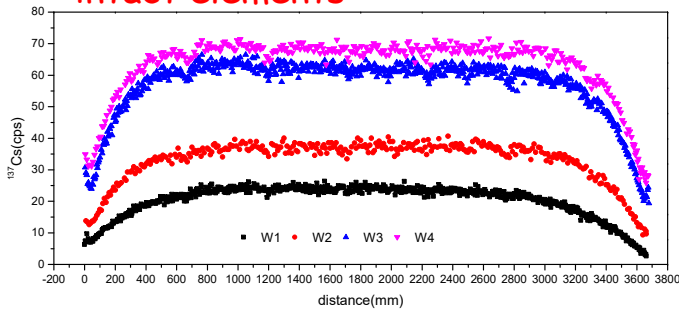


# Gamma scanning of spent fuel element from NPP

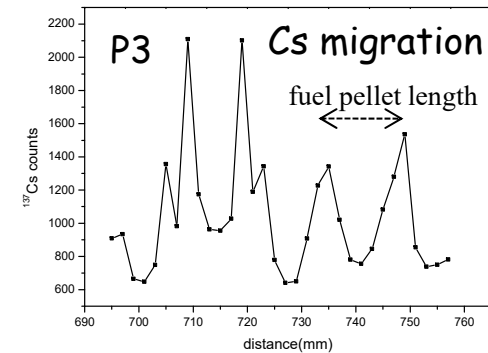
*Gamma scanning of 4 intact elements and 4 failed elements was measured with burnup range of 9600-45000MWd/tU.*

Measurement of  $^{134}\text{Cs}$ ,  $^{137}\text{Cs}$  was performed by HPGe GC4018 detector. The atom ratio  $^{134}\text{Cs}/^{137}\text{Cs}$  was evaluated by intrinsic efficiency calibration. In order to facilitate the comparison between the elements, the  $^{137}\text{Cs}$  count rate and atom ratio  $^{134}\text{Cs}/^{137}\text{Cs}$  are converted to the counting level at the shut-down time according to the cooling time of the fuel element.

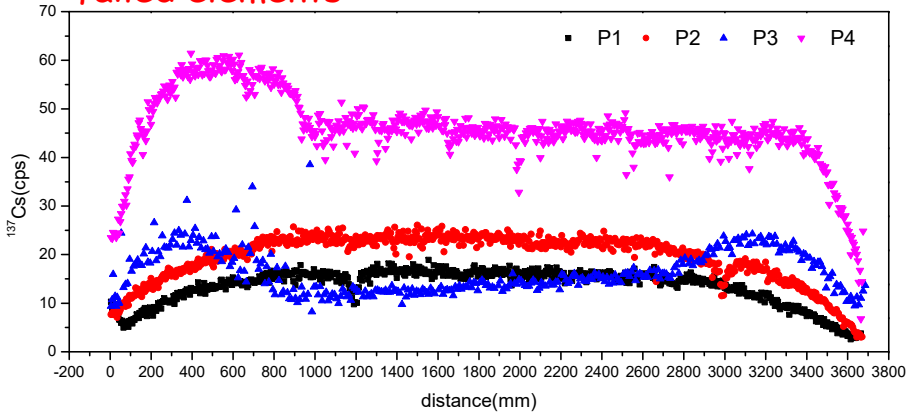
intact elements



- Cs migration & loss (20.9% and 27.2%)
- Loss proportion of  $^{134}\text{Cs}$  and  $^{137}\text{Cs}$  is approximately equal



failed elements



burnup distribution can be characterized by  $^{134}\text{Cs}/^{137}\text{Cs}$

