

# Information on SHARAQ-S1 spectrometer

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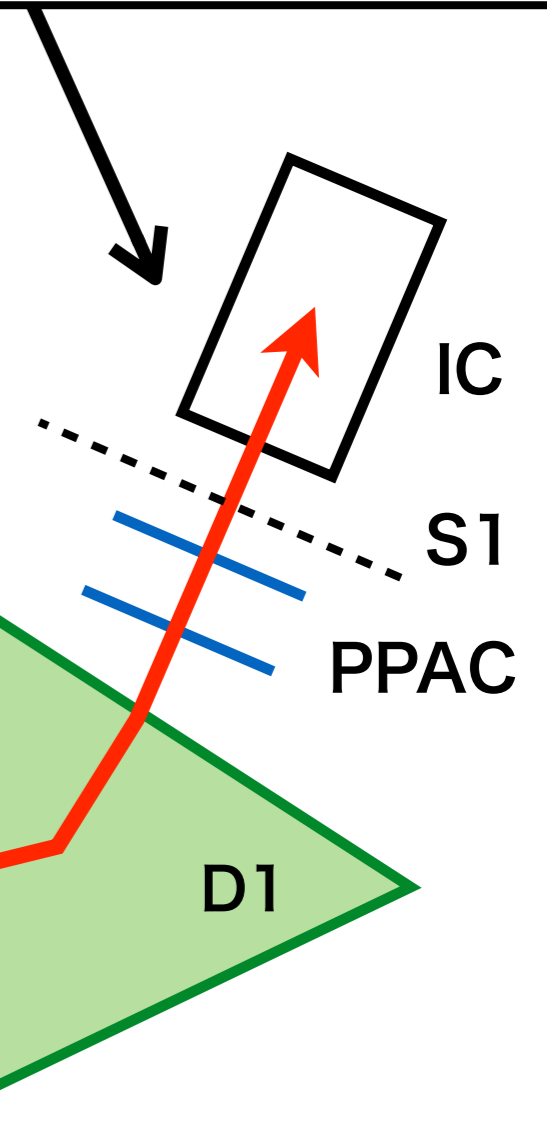
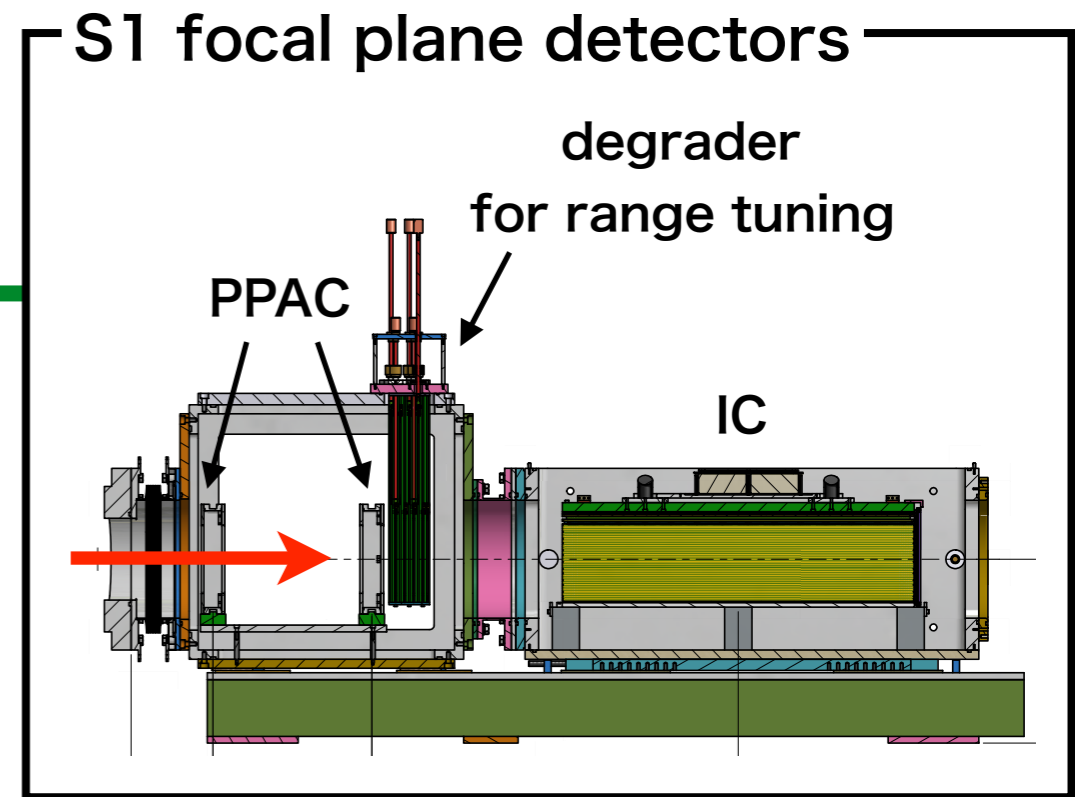
# Setup

- **SHARAQ-S1 spectrometer**

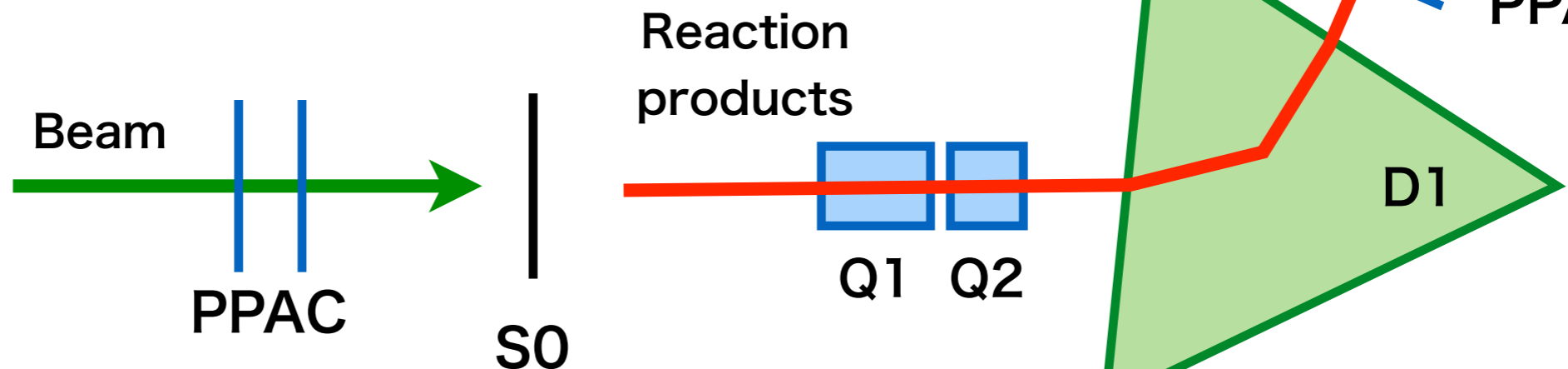
- Q-Q-D configuration
- $\rho = 2.57$  m,  $52.7^\circ$  bending

- **S1 focal plane detectors**

- PPAC x 2
- X-A-Y configuration
- $240$  mm<sup>W</sup> x  $150$  mm<sup>H</sup>
- Delay-line readout
- Isobutane @  $10$  torr
- Ionization chamber
- $280$  mm<sup>W</sup> x  $150$  mm<sup>H</sup> x  $757.5$  mm<sup>D</sup>
- $30$  ch readout (  $30$  layers)
- $\text{CF}_4$  @  $\sim 0.1$  atm



## OEDO



# Design parameters

- Matrix elements (1st-order)

- $(x|x) = -0.54$ ,  $(x|a) = 0.00$ ,  $(x|\delta) = -1.889$
- $(a|x) = -1.04$ ,  $(a|a) = -1.84$ ,  $(a|\delta) = -0.838$
- $(y|y) = -6.12$ ,  $(y|b) = 0.00$
- $(b|y) = -1.28$ ,  $(b|b) = -0.16$

- Resolving power : 3490

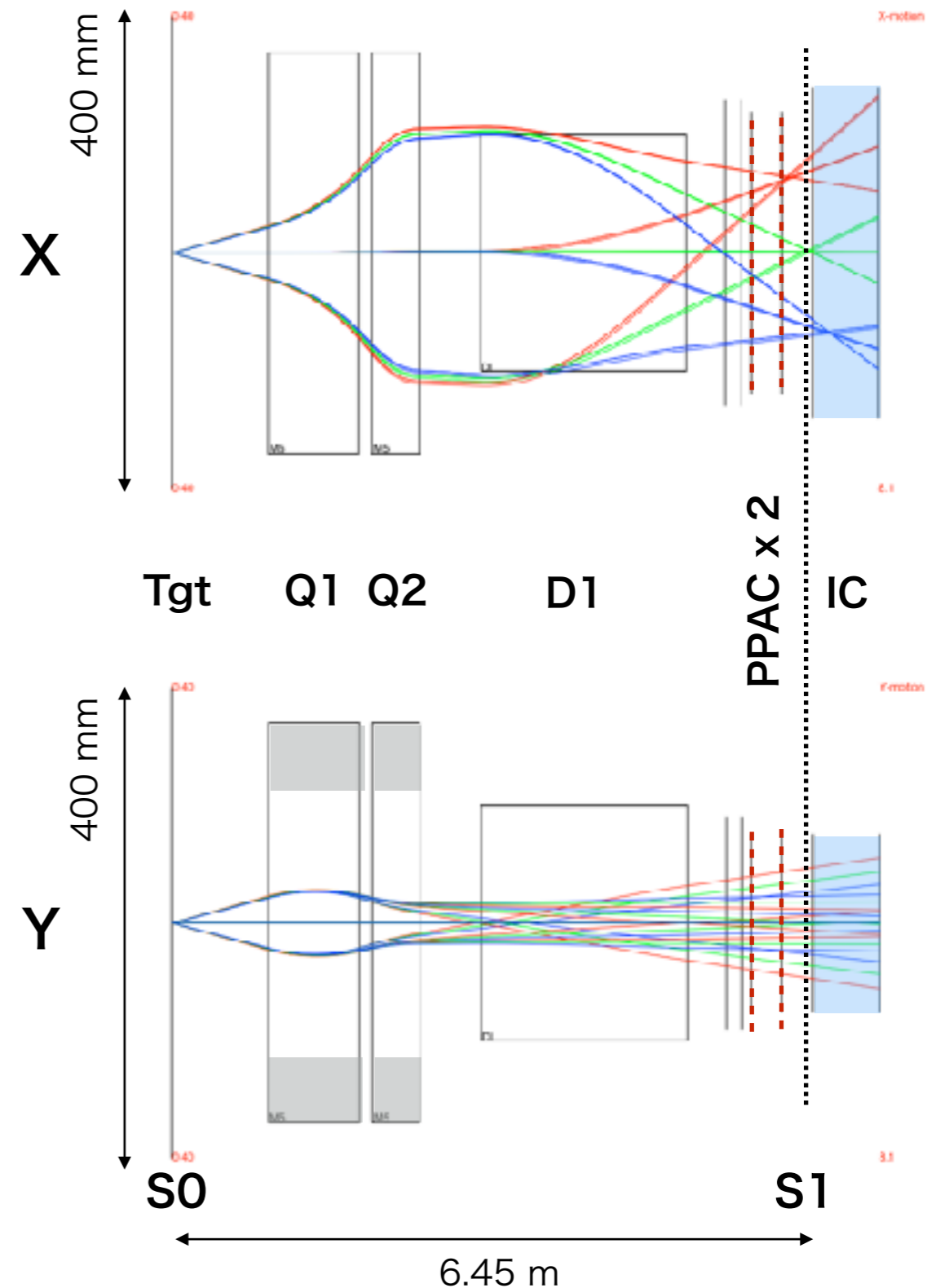
- Momentum acceptance :  $\sim \pm 3\%$

- Horizontal acceptance :  $\sim \pm 30$  mrad

- Vertical acceptance :  $\sim \pm 30$  mrad

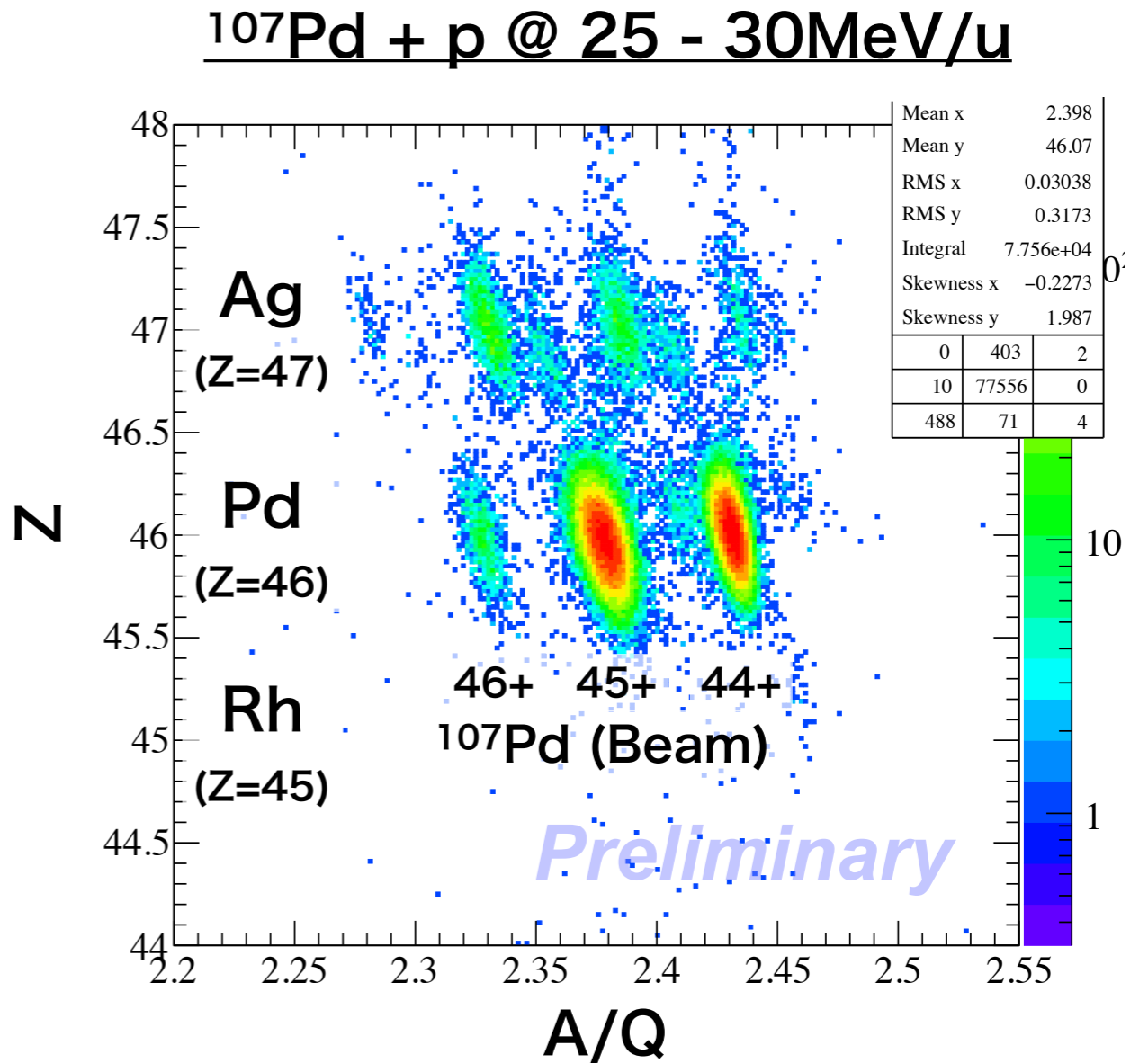
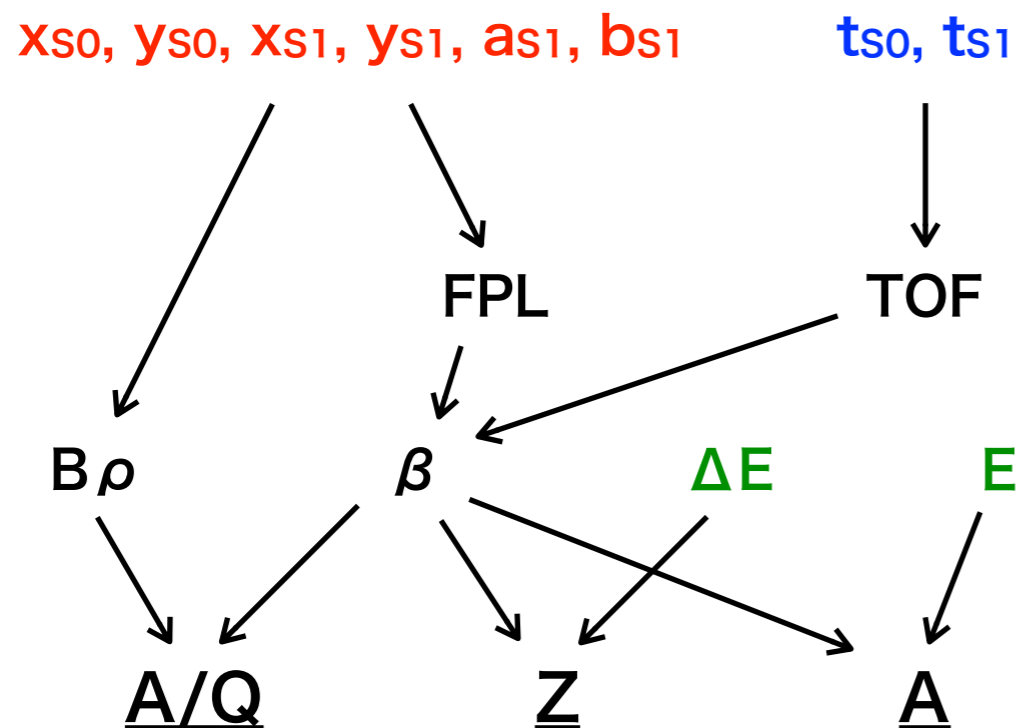
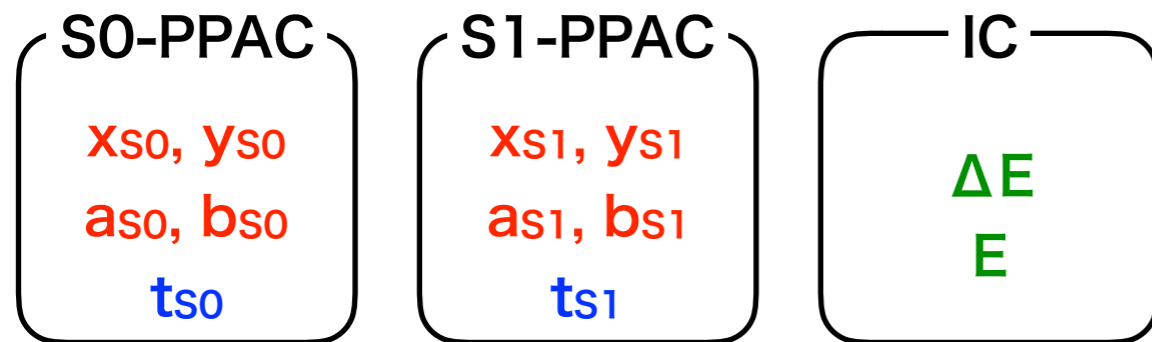
## 3rd-order calculation (COSY)

( $a_0 = \pm 20$ mr,  $b_0 = \pm 20$ mr,  $\delta = 0, \pm 3\%$ )



# Particle Identification @ S1

- PID is performed with TOF -  $B\rho$  -  $\Delta E$  - E method



$\sigma(A/Q) \sim 0.2\%$ ,  $\sigma(Z) \sim 0.5\%$

For A, analysis is ongoing . . .