

## J-PARC Hadron Hall : EXPERIMENTAL REPORT on RUN#68&69

	Date(submitted)	2016/07/08
Group	E62 / E57	Beam line
		K1.8BR
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### Summary and Results

- **E62/E57 Inflight beam tuning @  $\pm 0.7\text{GeV}/c$ ,  $\pm 0.9\text{GeV}/c$  K**

Date: May 31 (Run#68), Jun4-5 (Run#69)

Beam power: 41-42 kW

User time: 23:34 (scheduled beam-time: 24 hrs.)

- **E62/E57 K- stop tuning & X-ray detector commissioning@  $\pm 0.7\text{GeV}/c$ ,  $\pm 0.9\text{GeV}/c$  K**

Date: Jun24-30 (Run#69)

Beam power: 41 kW

User time: 57:37 (scheduled beam-time: 72 hrs.)

Production target : Au

K1.8ESS1 : +/- 100 kV (for 0.7 GeV/c), +/- 170 kV (for 0.9 GeV/c)

Typical K /  $\pi$  beam rate [Counts/spill] :

- +0.7 GeV/c ... K<sup>+</sup> /  $\pi^+$  ~ 80 k / 300 k ~ 0.25      ● +0.9 GeV/c ... K<sup>+</sup> /  $\pi^+$  ~ 340 k / 500 k ~ 0.7
- -0.7 GeV/c ... K<sup>-</sup> /  $\pi^-$  ~ 20 k / 300 k ~ 0.07      ● -0.9 GeV/c ... K<sup>-</sup> /  $\pi^-$  ~ 130 k / 500 k ~ 0.25

### SCHEDULED and EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME, Priority etc.

	date	MR	beam condition	run	start time	end time	duration	down time	up time	up time ratio
Run#68	2016/5/31	42kW	$\pm 0.7/\pm 0.9\text{GeV}/c$	BL tuning	2:20	14:00	11:40	0:30	11:09	96%
Run#69	2016/6/4	41kW	$\pm 0.7/-0.9\text{GeV}/c$	BL tuning	16:05	24:00	7:54	0:31	7:22	93%
	2016/6/5	41kW	$\pm 0.9/-1.0\text{GeV}/c$	BL tuning	0:00	4:00	4:00	0:20	3:39	92%
	Sum of BL tuning						23:34	1:22	22:11	94%
Run#69	2016/6/24	41kW	+0.7/ $\pm 0.9\text{GeV}/c$	stop tuning	10:12	22:21	12:08	1:10	10:57	90%
	2016/6/25	41kW	+0.9GeV/c	stop tuning	13:37	20:00	6:22	0:03	6:18	99%
	2016/6/26	41kW	-0.9GeV/c	stop tuning	9:30	18:00	8:29	0:05	8:24	99%
	2016/6/27	41kW	-0.9GeV/c	stop tuning	9:08	18:32	9:24	1:12	8:11	87%
	2016/6/28	41kW	-0.9GeV/c	stop tuning	8:29	18:17	9:47	0:18	9:29	97%
	2016/6/29	41kW	$\pm 0.7\text{GeV}/c$	stop tuning	14:55	20:56	6:00	0:08	5:52	98%
	2016/6/30	41kW	$\pm 0.9\text{GeV}/c$	stop tuning	9:37	15:00	5:23	0:19	5:03	94%
		Sum of stop tuning						57:37	3:19	54:17
	Sum all						81:11	4:41	76:29	94%

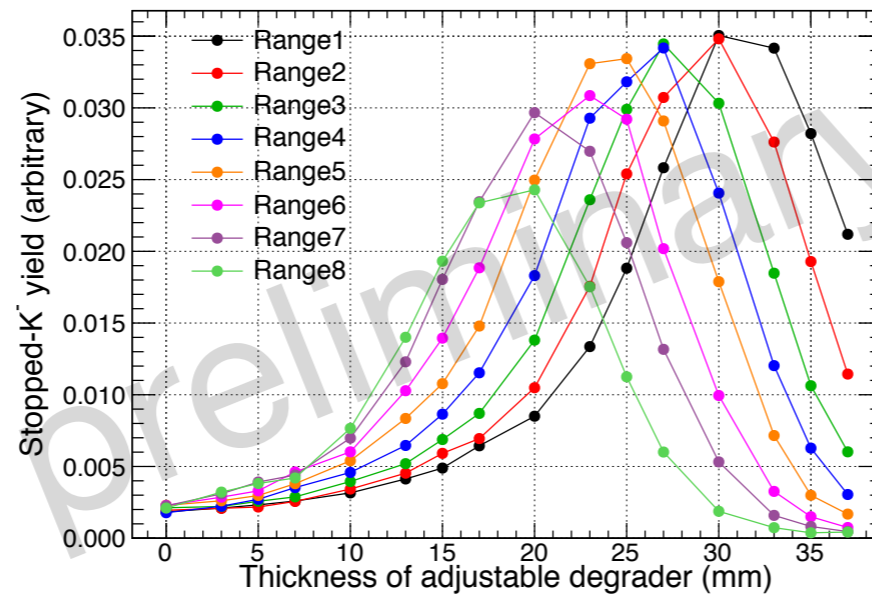
### Comments/Requests

# E62 / E57 (K atom) : Commissioning run

## 1. K- stop tuning

- ✓ establish a method of degrader optimization
- ✓ confirm stopped K- rate

**Range curve**  
(+0.9 GeV)



## — Summary —

Inflight beam tune : 24/24 hrs  
Stop K & detector tests : 57.5/72 hrs



## 2. X-ray detector commissioning

- ✓ evaluate in-beam performance @K1.8BR
- ✓ K- stop tune using K-Li x-ray yield measured by SDDs

