I. NEWS: ANALYSIS OF RUNS 898-914

- Images from runs 898-914

- Spectra of ASICs' amplitudes from runs 901 and 902

II. EXPECTATIONS FROM POISSON STATISTICS

Poisson distribution

$$P(n; \nu) = \frac{\nu^n e^{-\nu}}{n!} \tag{1}$$

describes probabilities to observe n photons for the mean expectation ν. Particular probabilities to observe 0,1,2, and 3 photons at average number of photons ν

$$
\begin{aligned}
P(0; \nu) &= e^{-\nu}, \\
P(1; \nu) &= \nu e^{-\nu}, \\
P(2; \nu) &= \frac{\nu^2 e^{-\nu}}{2}, \\
P(3; \nu) &= \frac{\nu^3 e^{-\nu}}{6}.
\end{aligned}
\tag{2}
$$

Ratio of probabilities

$$\frac{P(1; \nu)}{P(0; \nu)} = \nu, \tag{3}$$

$$\frac{P(2; \nu)}{P(1; \nu)} = \frac{\nu}{2}. \tag{4}$$

TABLE I: Width of the peaks in photon spectra in ADC units.

Run	901		902	
Peak	0γ	1γ	0γ	1γ
ASIC#0	2.564	2.536	3.129	2.410
1	2.227	2.601	2.817	2.321
2	2.711	2.368	3.002	2.605
3	2.343	2.575	2.985	2.482
4	2.441	2.745	3.111	2.408
5	2.210	2.646	2.900	2.217
6	2.414	2.481	3.010	2.416
7	2.247	2.610	2.823	2.317
8	2.377	2.288	3.159	2.367
9	2.239	2.229	3.112	2.283
10	2.500	2.454	3.330	2.536
11	2.307	2.175	2.119	2.280
12	2.390	2.388	3.012	2.254
13	2.185	2.674	2.722	2.291
14	2.328	2.201	3.181	2.265
15	2.215	2.268	3.047	2.294

- Everything looks quite reasonable here

TABLE II: Gain factors in $\frac{ADC\ units}{1\gamma}$ and common mode offset of the 0γ-peak in ADC units.

	$Amp.(0\gamma)$ - comm. mode offset		$Amp.(1\gamma) - Amp.(0\gamma)$	
Run	901	902	901	902
ASIC#0	10.5	15.3	9.75	9.92
1	10.5	16.0	9.09	9.23
2	12.1	18.0	12.3	12.2
3	12.4	19.7	9.62	9.98
4	9.8	14.7	9.46	9.66
5	10.3	15.8	8.83	9.00
6	12.8	18.7	9.61	9.83
7	13.3	19.4	9.14	9.50
8	9.9	15.5	9.38	9.46
9	10.1	16.1	9.15	9.40
10	8.7	14.8	9.76	9.79
11	8.9	15.0	9.27	9.21
12	10.7	16.8	8.90	9.22
13	11.3	17.5	9.00	9.16
14	10.3	16.2	9.06	9.38
15	10.2	16.2	8.85	9.46

- The "common mode" offset depends on illumination

- Taking into account the model systematics, associated with parameterization of spectrum line shape, resolution from two runs are consistent with each other.

TABLE III: Ratio of the peak fractions $Fr.(1\gamma)/Fr.(0\gamma) \equiv \nu$.

Run→	901	902
ASIC#0	0.147	0.480
1	0.164	0.497
2	0.150	0.542
3	0.152	0.499
4	0.169	0.457
5	0.191	0.469
6	0.141	0.481
7	0.169	0.485
8	0.148	0.493
9	0.144	0.472
10	0.151	0.498
11	0.122	0.465
12	0.147	0.365
13	0.201	0.520
14	0.150	0.441
15	0.174	0.435

- All ratios represent the mean number of photon in the run.

- Columns 2 and 3 are consistent with difference in transmission factors in runs 901 (transm.=0.002) and 902 (transm.=0.005).