

LAMOST观测效率统计分析

霍志英

合作者：刘晓为 施建荣 等

2017/02/18 昆明

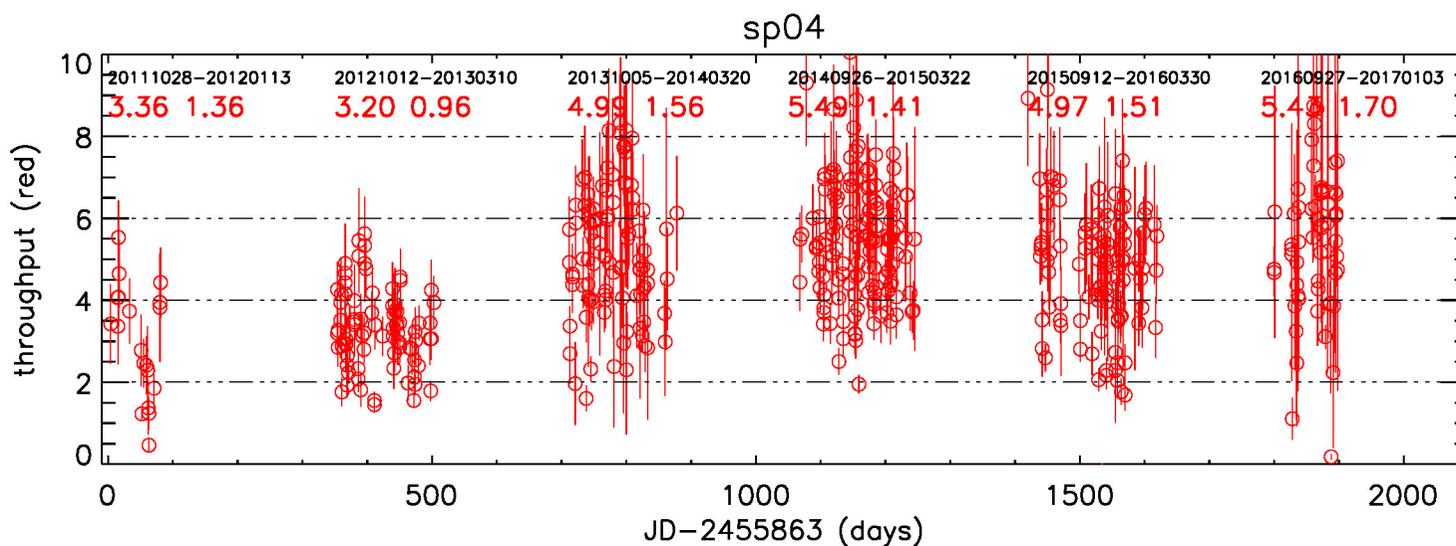
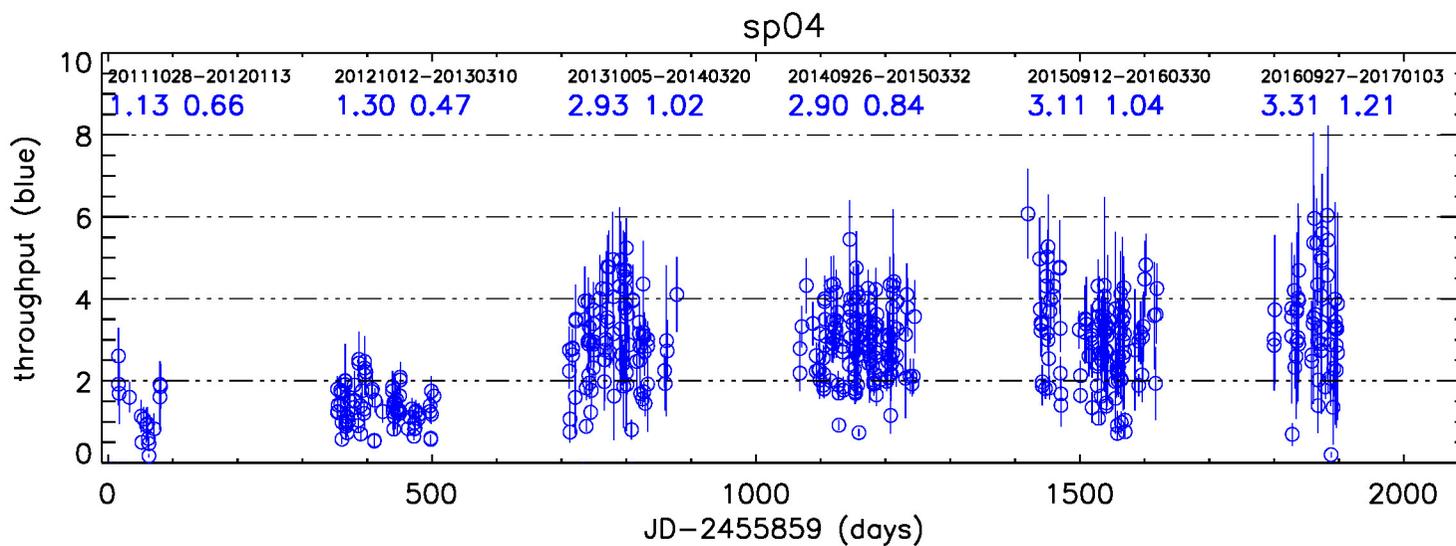
使用数据

使用数据: 20111028—20120126 先导巡天
20121003—20130320 正式巡天第一年
20130927—20140325 正式巡天第二年
20140926—20150322 正式巡天第三年
20150912—20160330 正式巡天第四年
20160927—20170103 正式巡天第五年

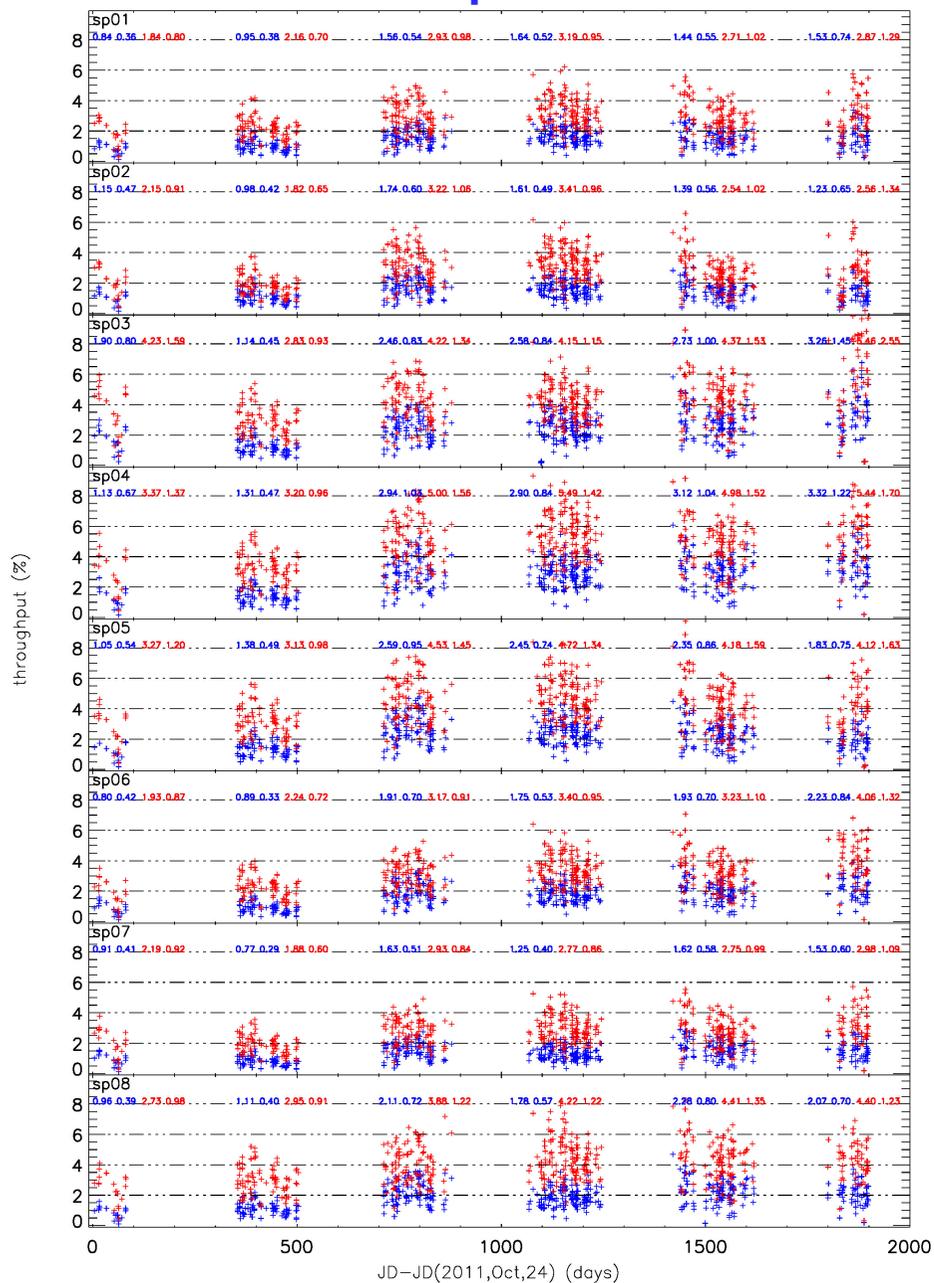
反银心天区, B(409)和M(262)共671个视场;
去掉观测质量不达标天区, 包括B(86)和M(76)共162个视场.

	total	B-plate	M-plate
total	509	323	186
pilot survey	19	16	3
regular survey 1st	82	61	21
regular survey 2nd	97	68	29
regular survey 3rd	139	82	57
regular survey 4 th	115	70	45
regular survey 5 th	57	26	31

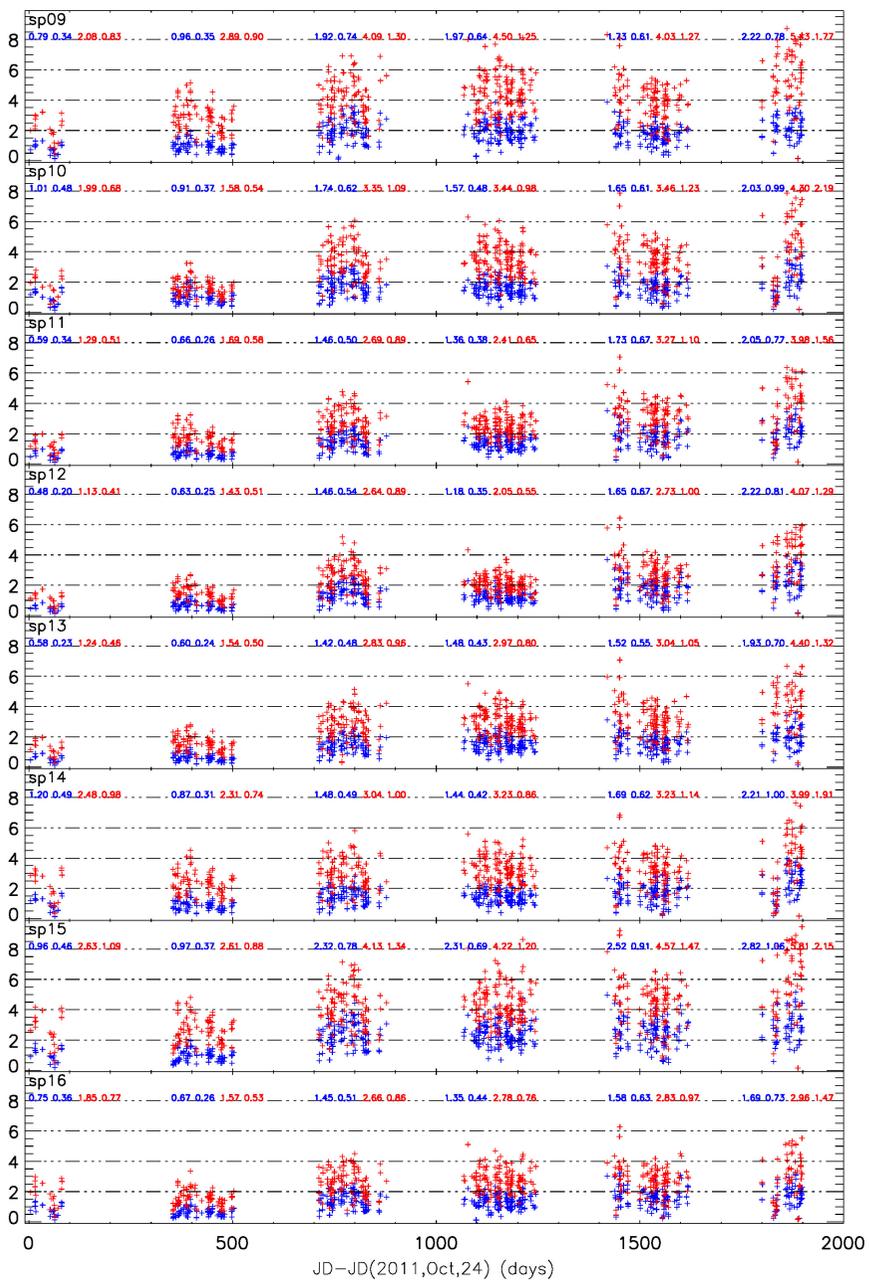
观测效率统计 — 第4台光谱仪效率随时间分布



Sp1-8

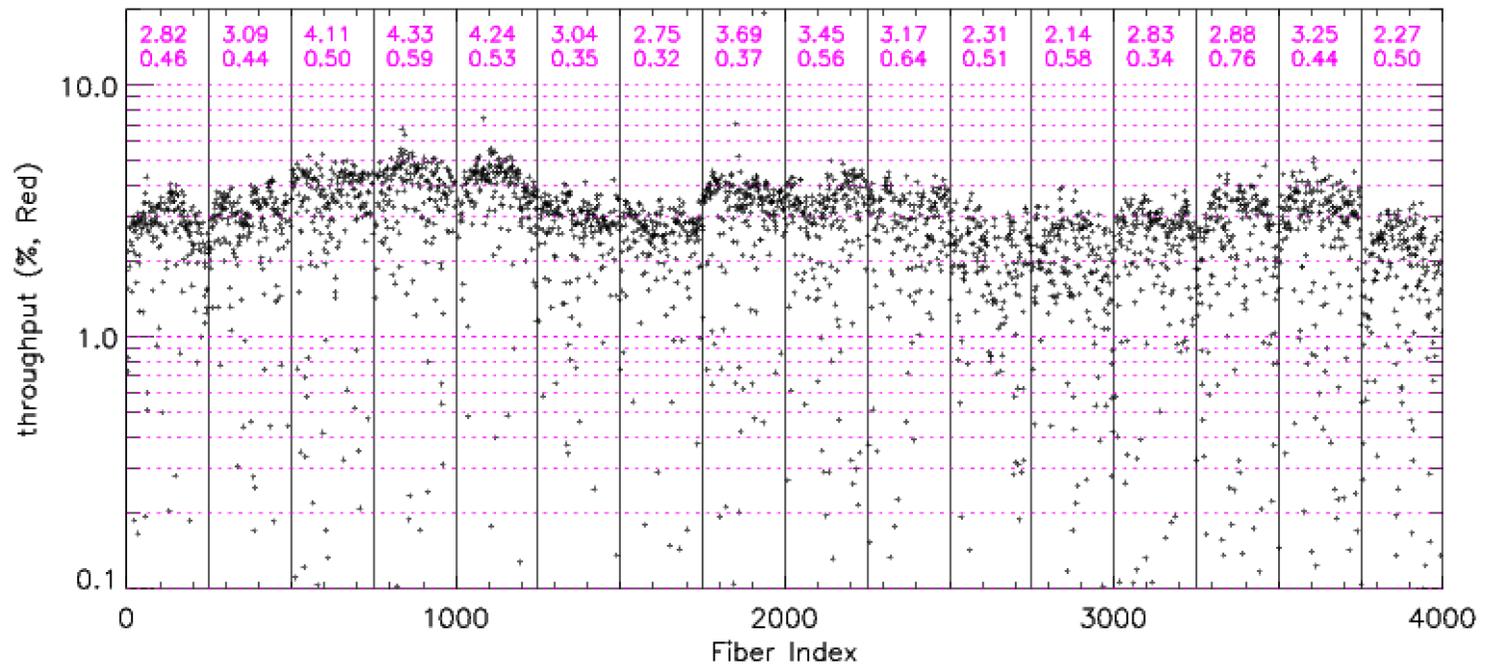
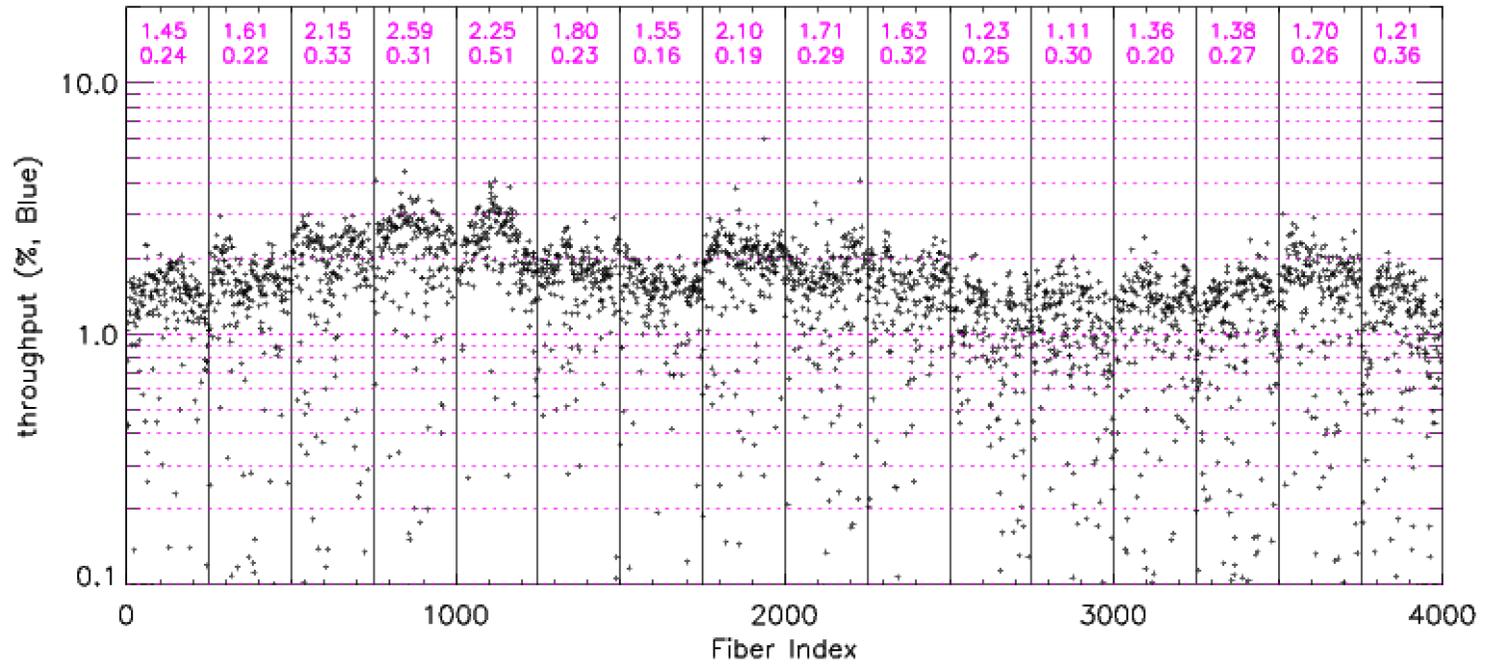


Sp9-16



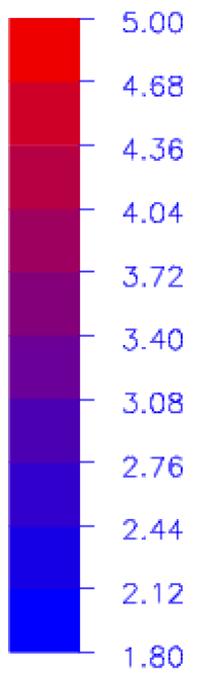
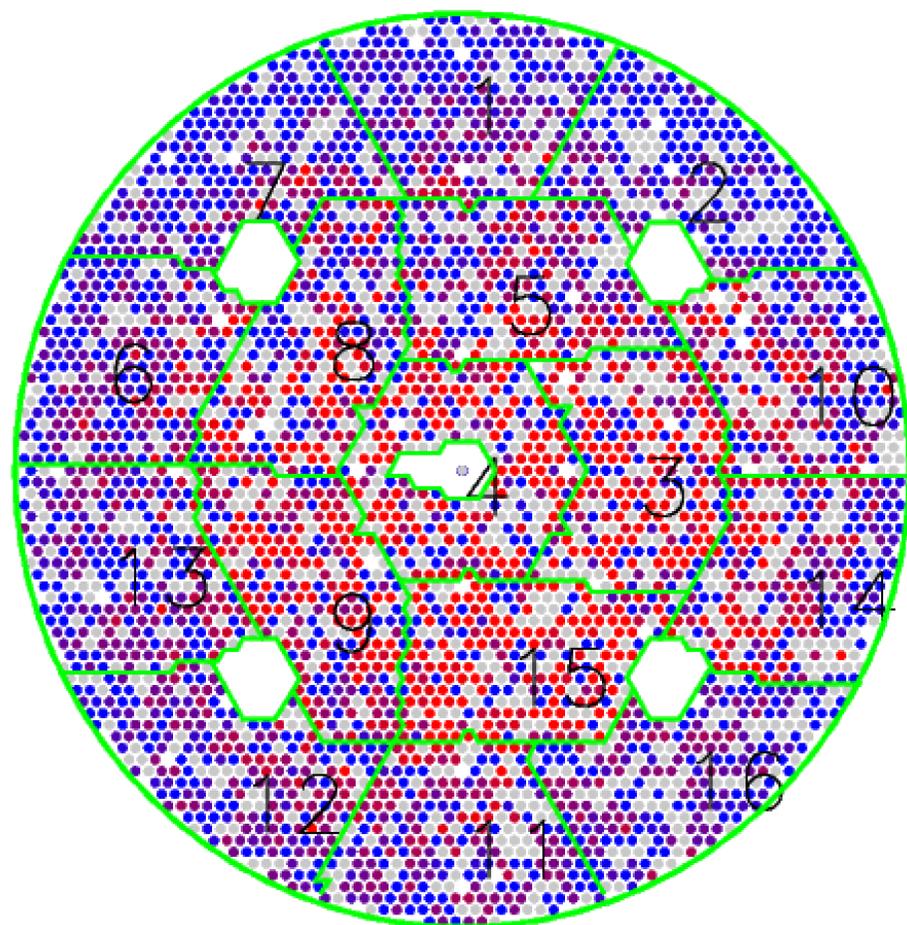
观测效率统计

20131010 GAC094N30B1



观测效率统计

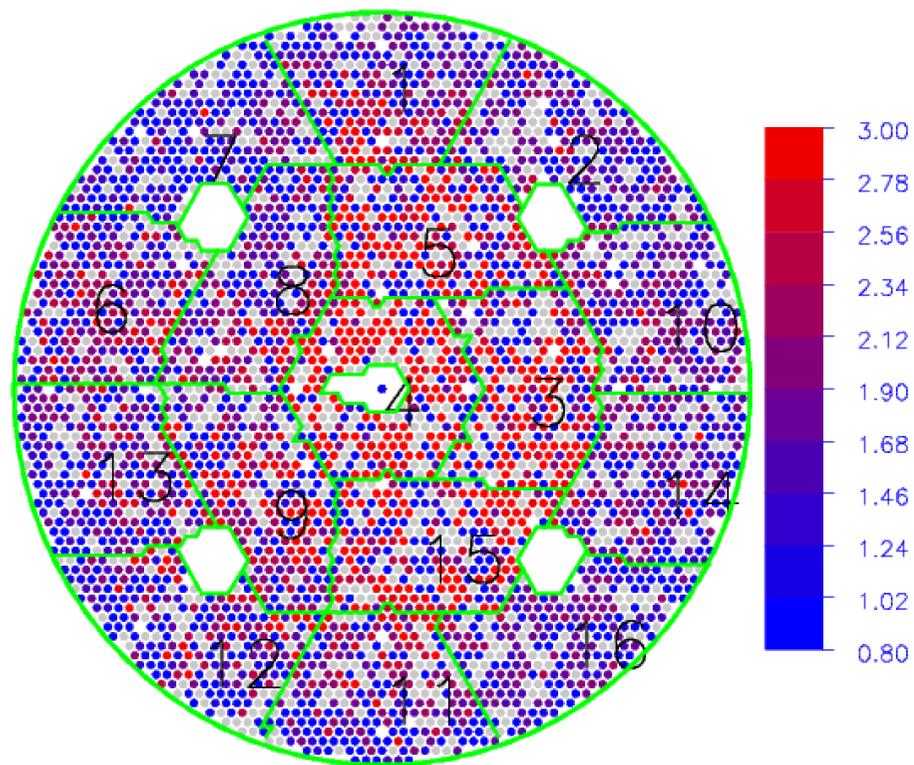
20170102 GAC102N27M1 Red



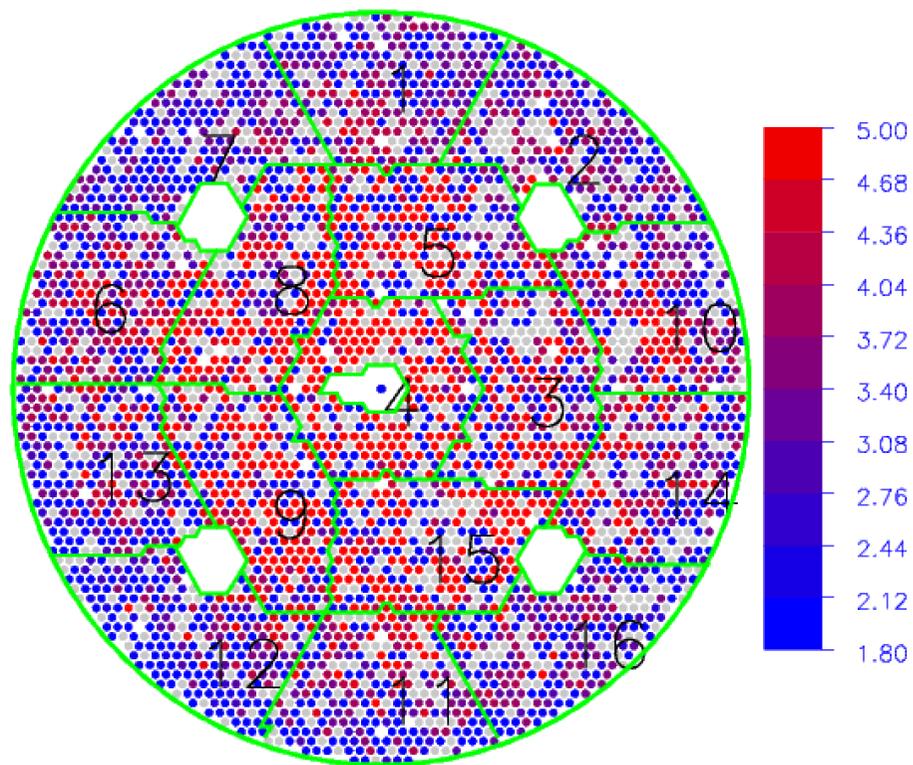
#sp	b_th	sp	r_th
4	1.00	4	1.00
5	0.92	5	0.89
3	0.84	3	0.84
15	0.80	15	0.81
8	0.75	8	0.80
6	0.70	9	0.79
9	0.69	10	0.68
10	0.60	6	0.63
2	0.60	2	0.63
1	0.55	14	0.60
7	0.53	1	0.59
11	0.51	13	0.56
12	0.51	11	0.55
14	0.51	7	0.55
13	0.50	12	0.54
16	0.50	16	0.52

透过率统计

20150218 GAC083N27M1 Blue

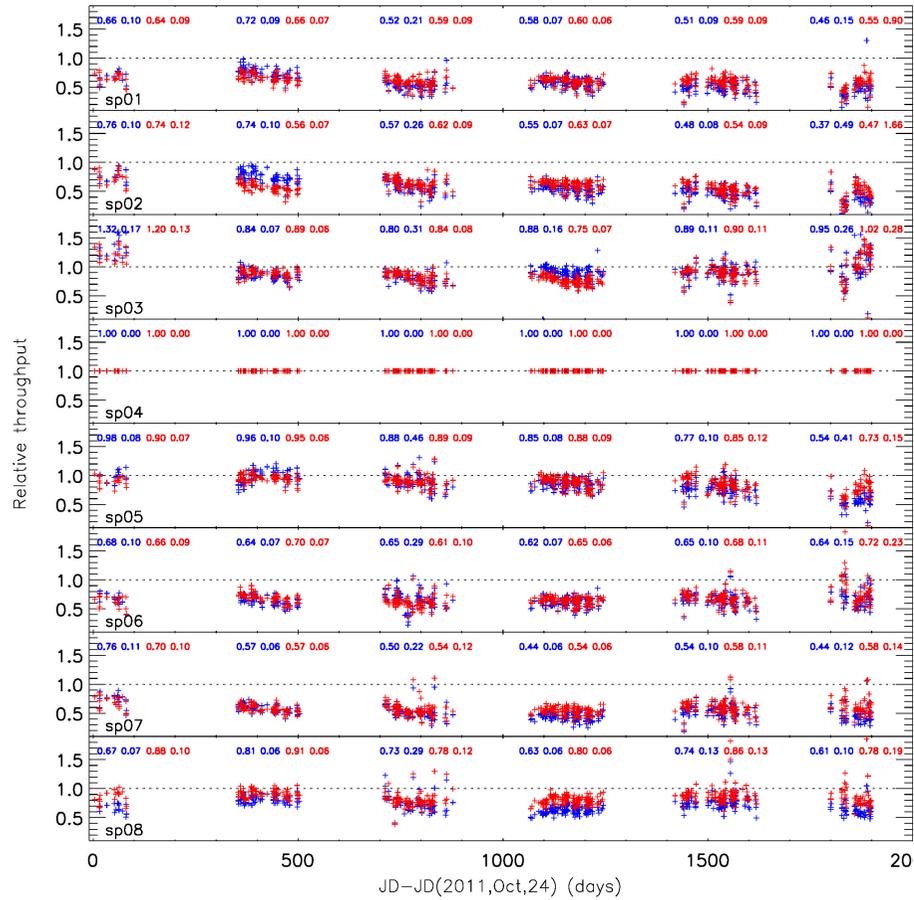


20150218 GAC083N27M1 Red

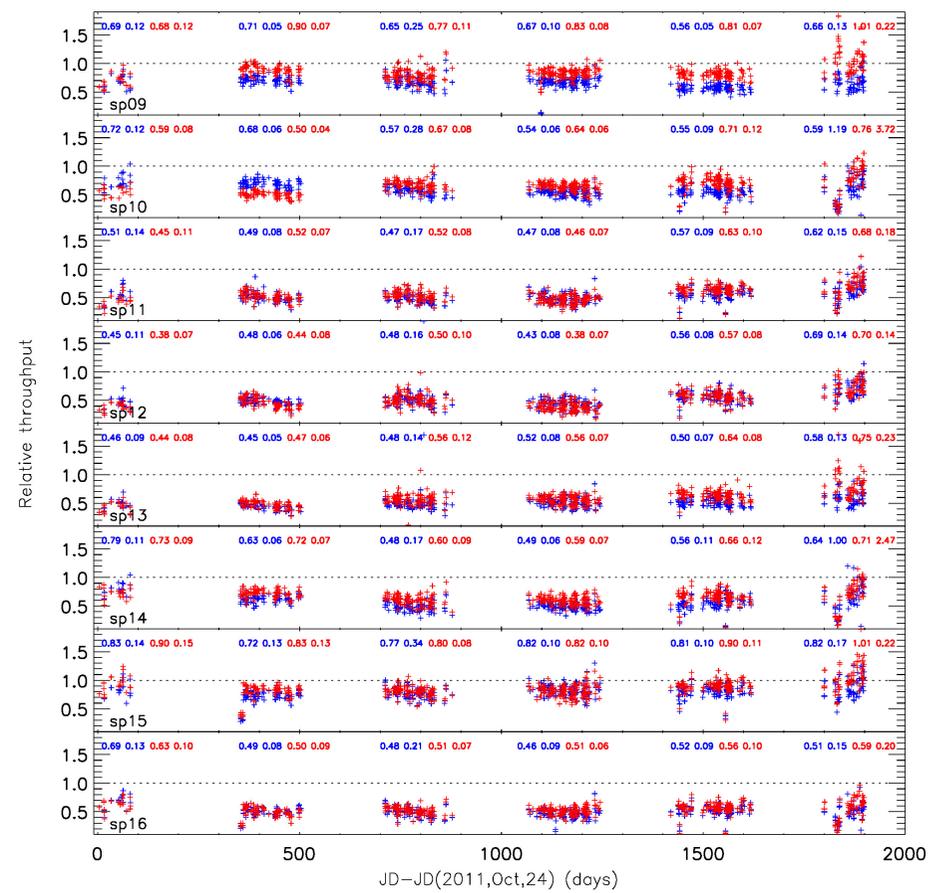


相对效率

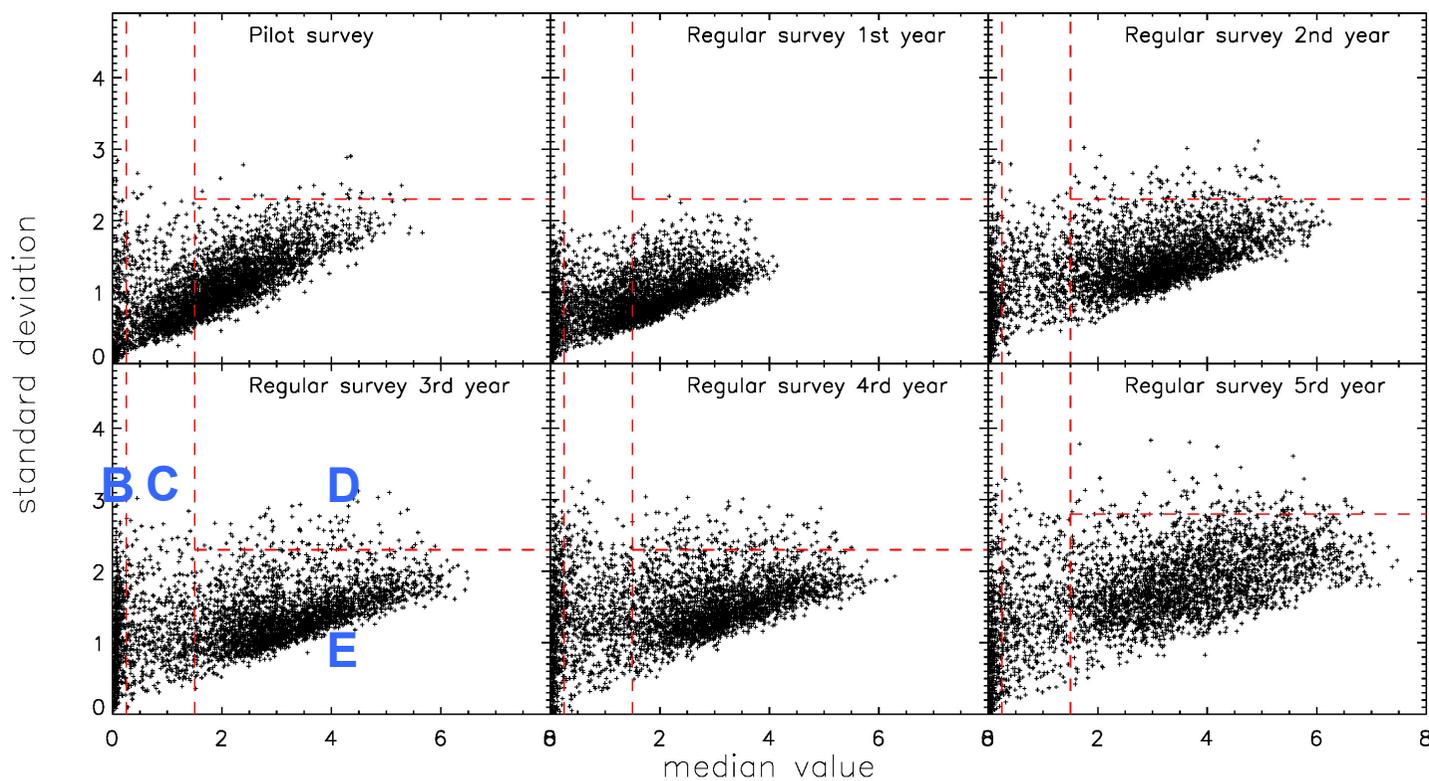
Sp1-8



Sp9-16

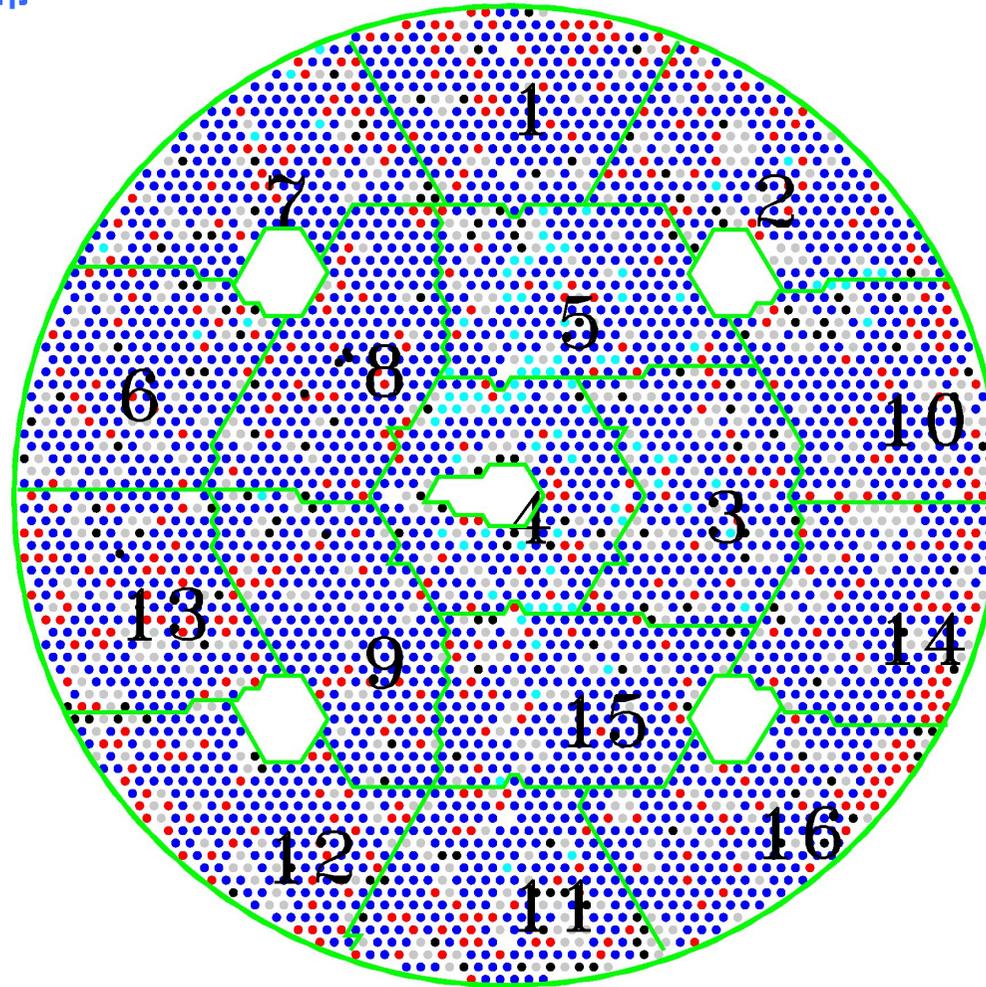


光纤行为分类



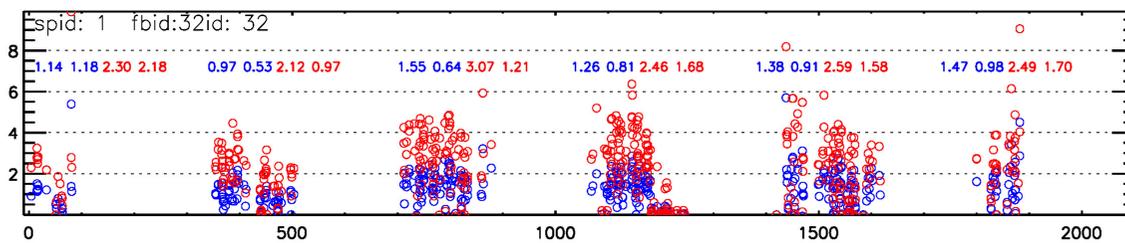
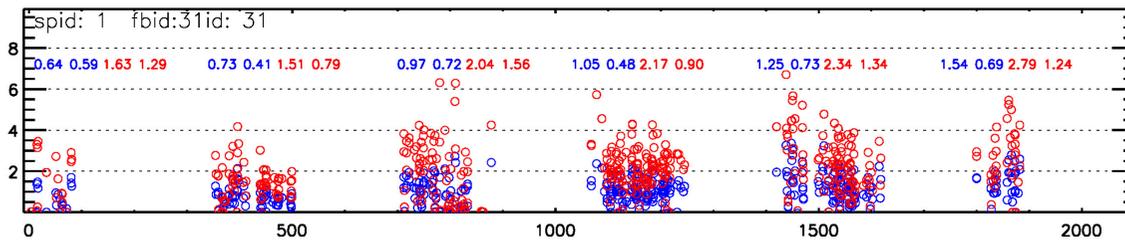
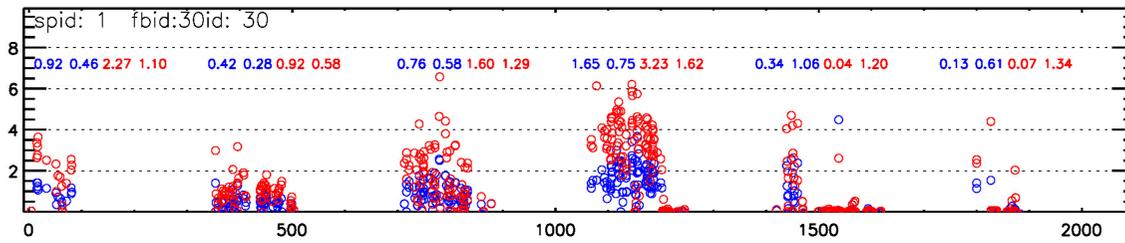
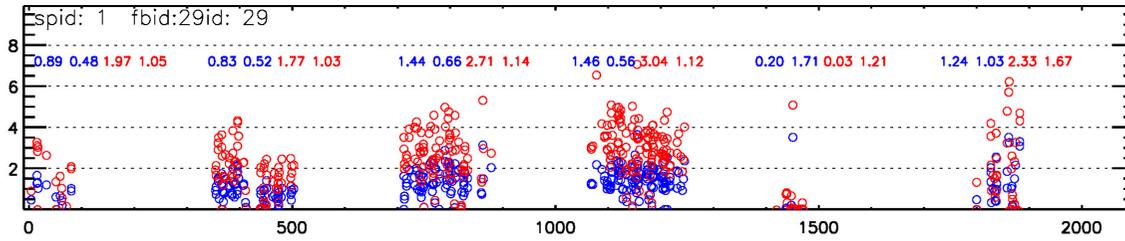
	<i>Pilot</i>	<i>Regular 1st</i>	<i>Regular 2nd</i>	<i>Regular 3rd</i>	<i>Regular 4th</i>	<i>Regular 5th</i>
A 死光纤:	83 (2.1%)	140 (3.5%)	166 (4.2%)	233 (5.8%)	228(5.7%)	334(8%)
B 效率低光纤:	315 (7.9%)	448 (11.2%)	488 (12.2%)	524 (13.1%)	339(8.5%)	420(11%)
C 效率偏低光纤:	1211 (30.3%)	1202 (30.1%)	424 (10.6%)	489 (12.2%)	457(11.4%)	471(12%)
D 效率高不稳定光纤:	21 (0.5%)	1 (0.0%)	81 (2.2%)	86 (2.2%)	113(2.8%)	95(2%)
E 效率高光纤:	2370 (59.3%)	2209 (55.2%)	2841 (71.0%)	2668 (66.7%)	2863(71.6%)	2680(67%)

光纤分类焦面分布



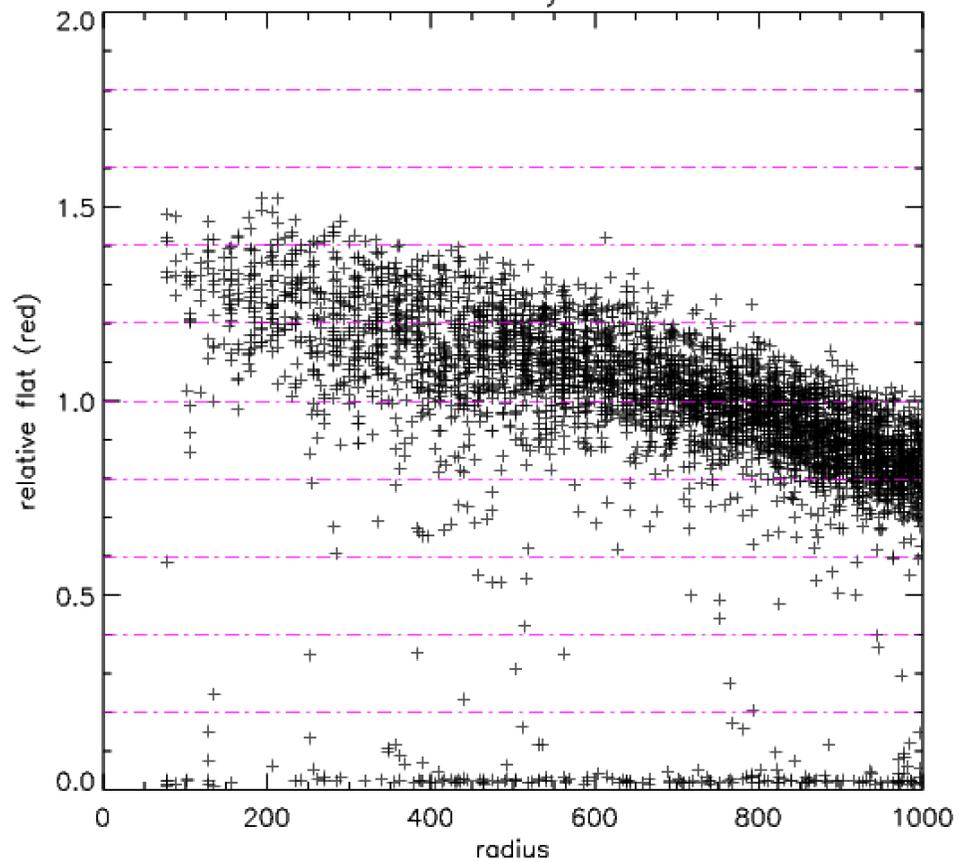
A 死光纤:	167 (4.2%)	黑色
B 效率低光纤:	475 (11.9%)	灰色
C 效率偏低光纤:	474 (11.9%)	红色
D 效率高不稳定光纤:	237 (5.9%)	浅蓝色
E 效率高光纤:	2647 (66.2%)	蓝色

光纤行为举例

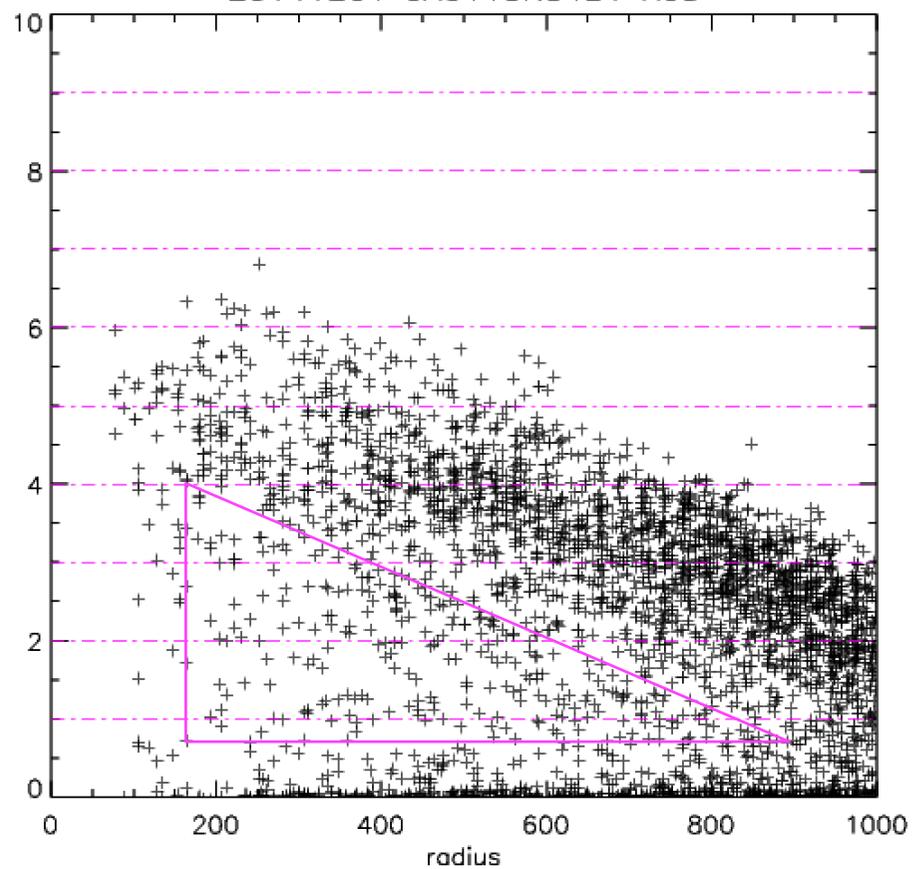


光纤走位

20141201 skyflat Red



20141201 GAC115N34B1 Red



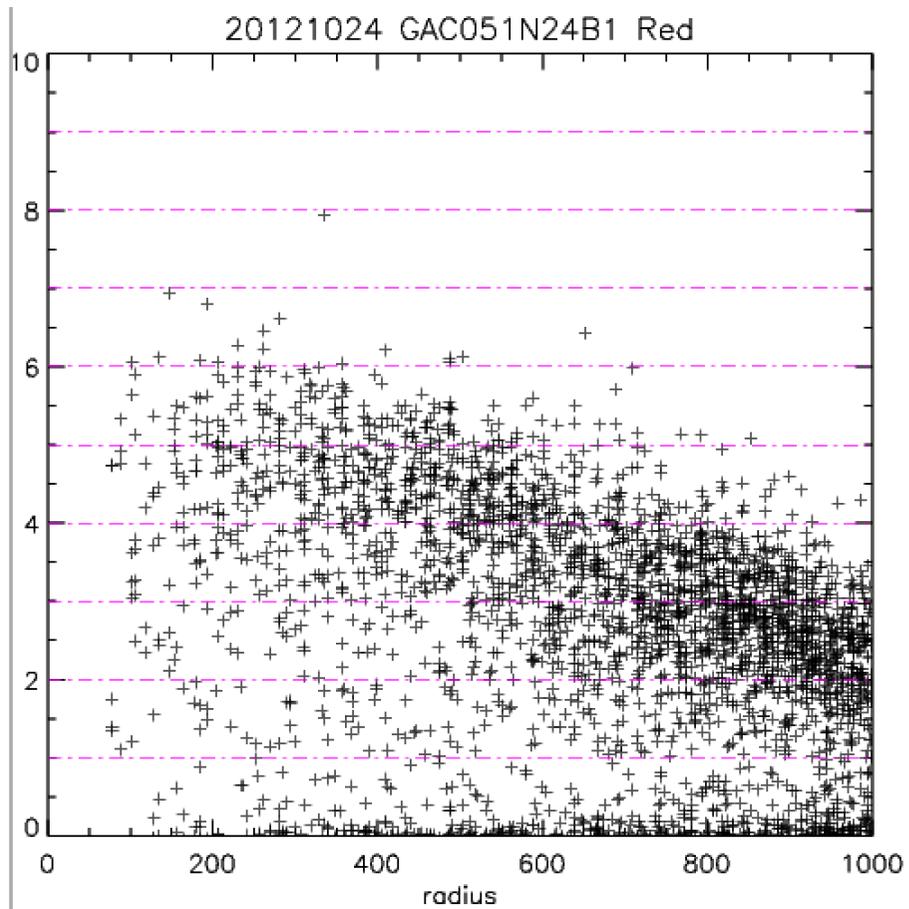
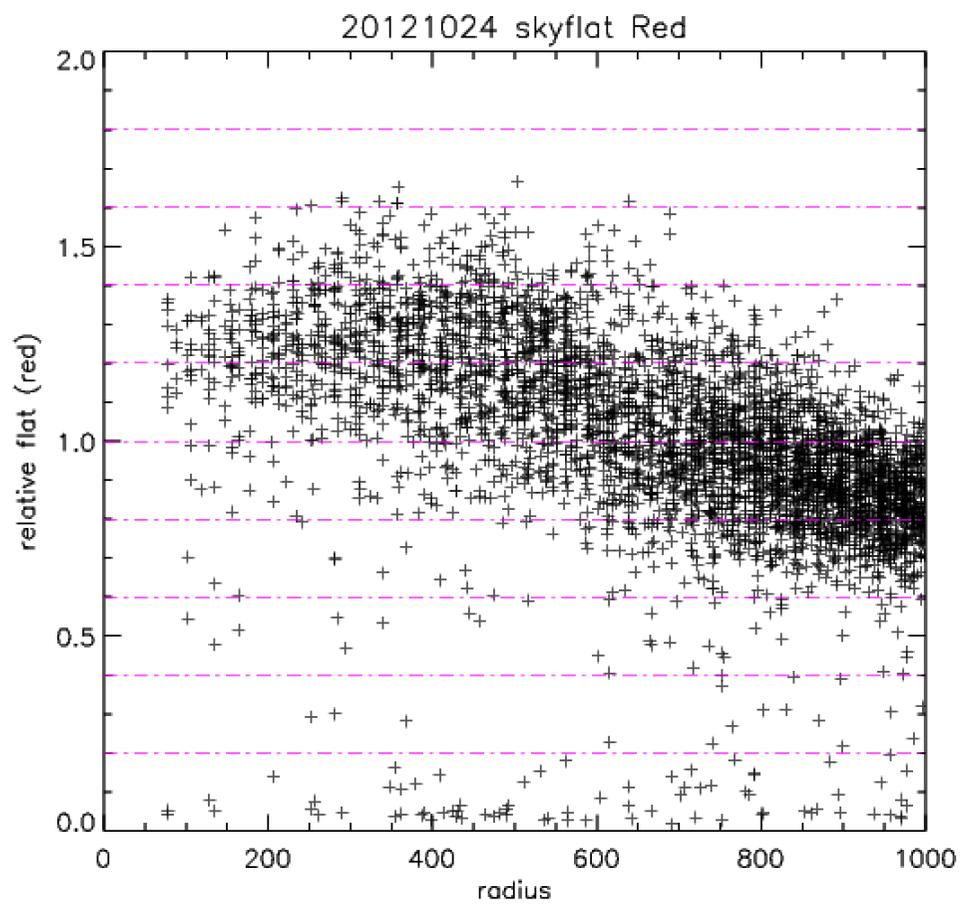
The End!

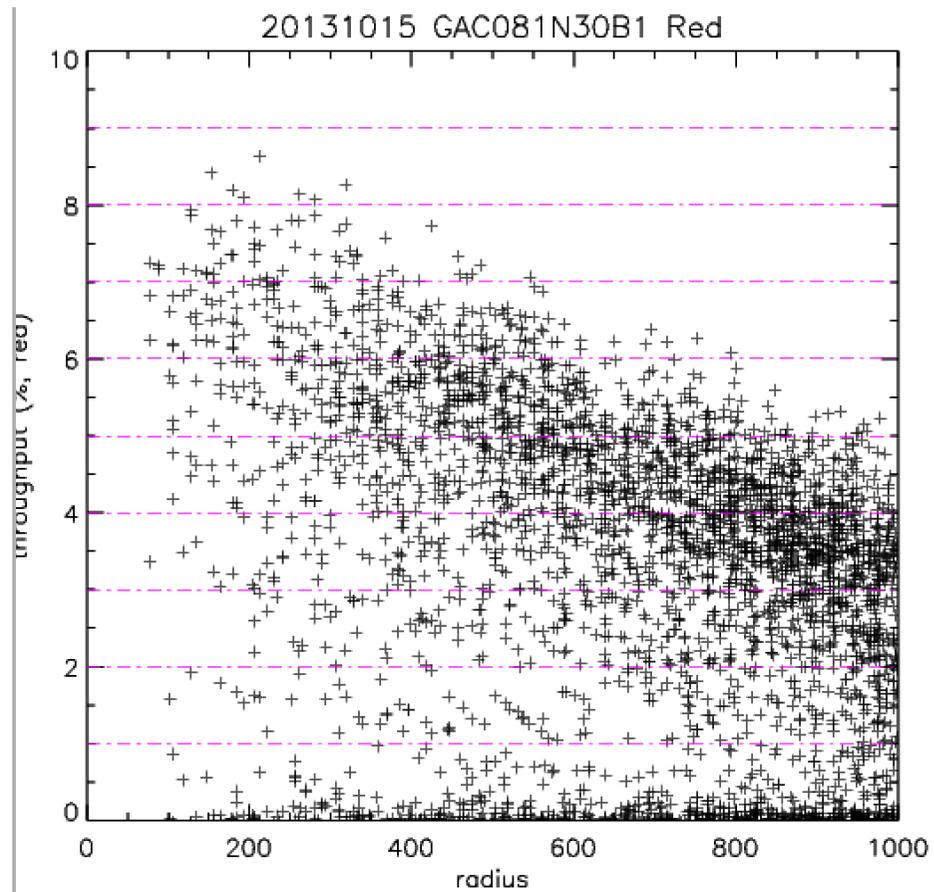
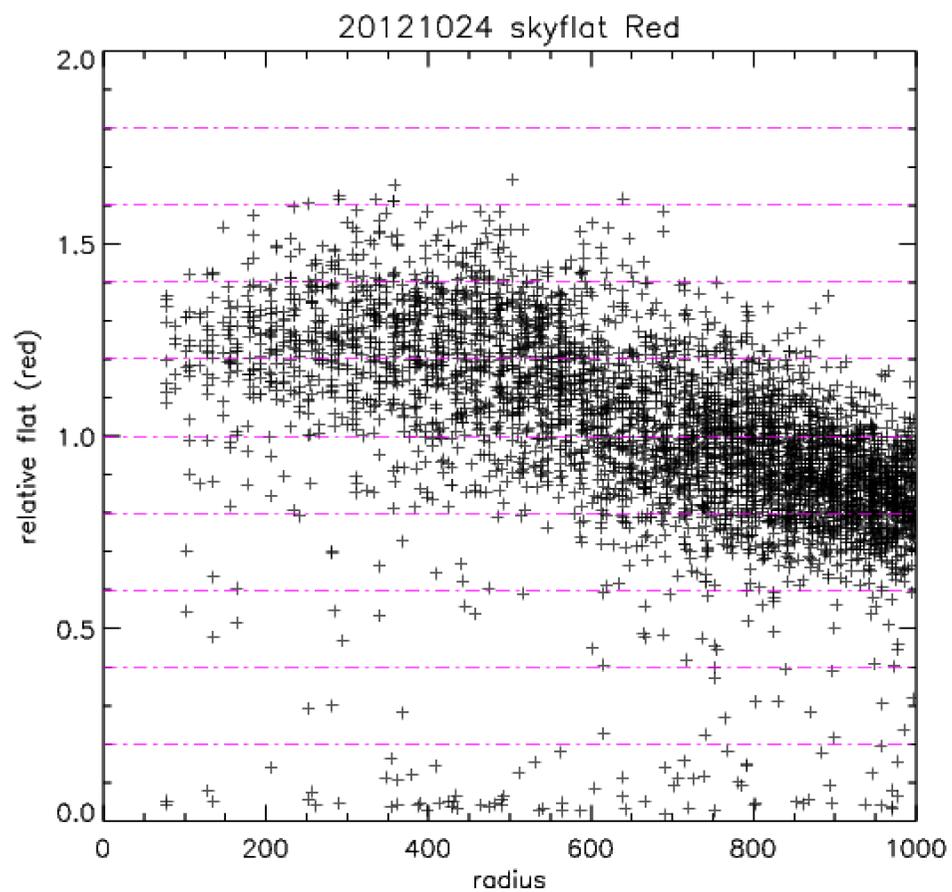
效率与seeing

星等cut?

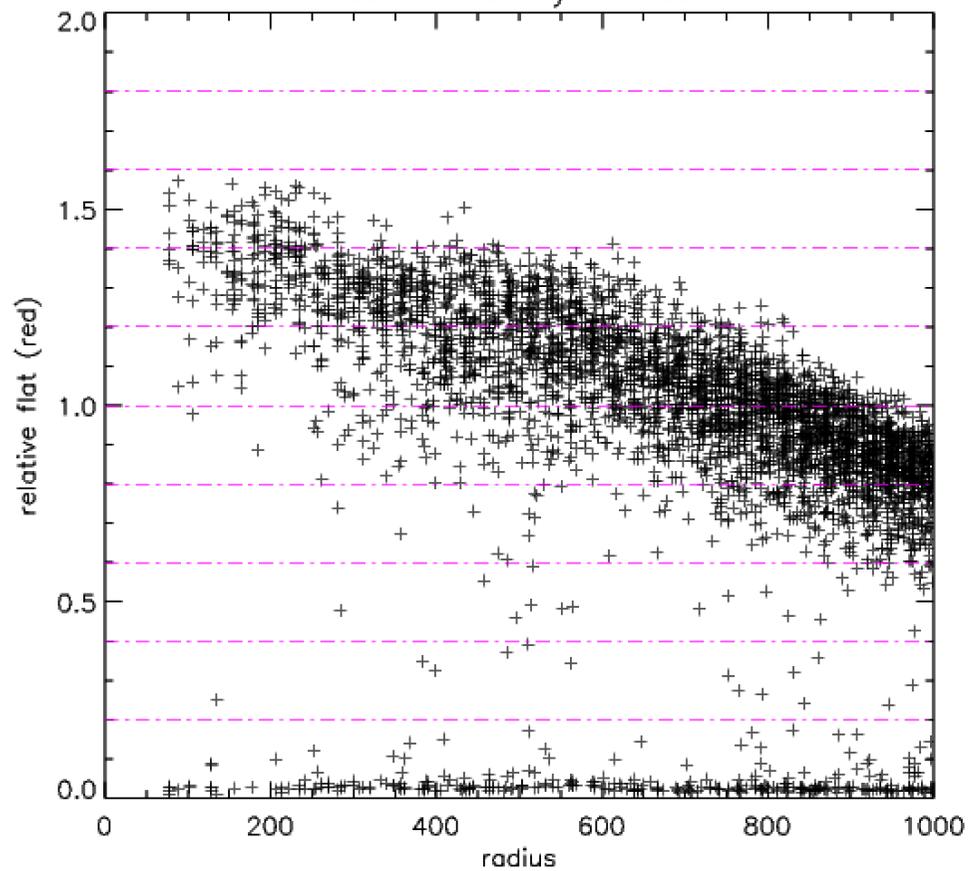
效率与焦面位置:1, 渐晕;2光
纤长短;3, ?

Idl 常用命令?

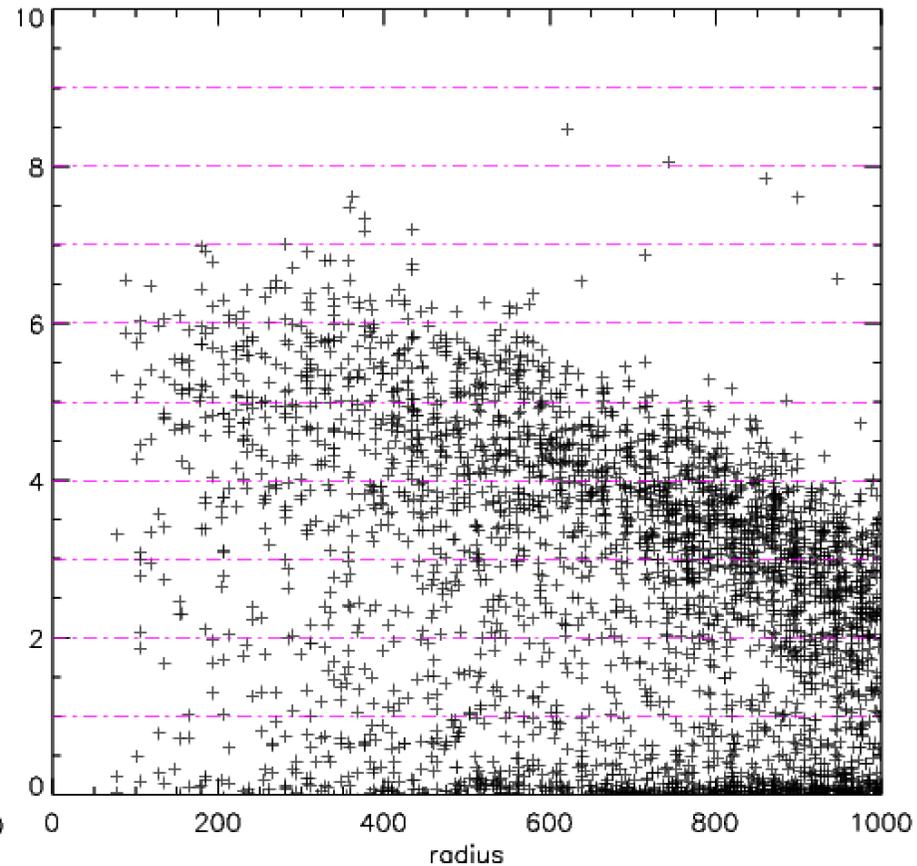




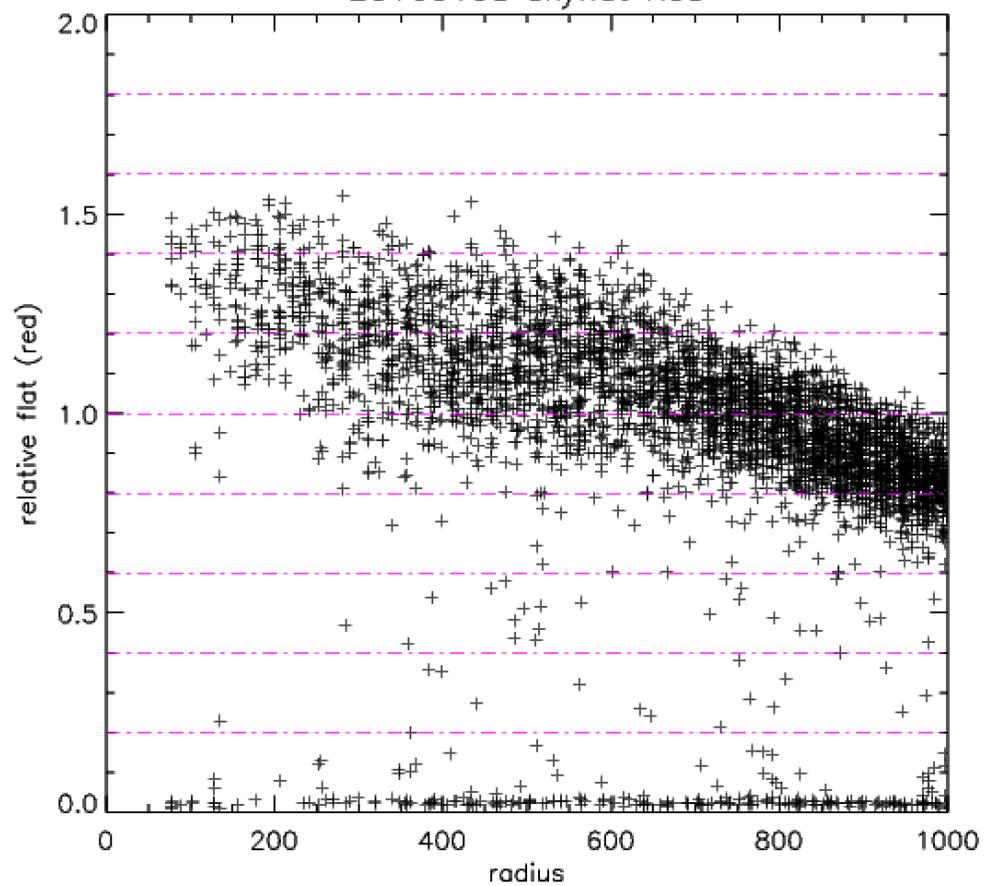
20170102 skyflat Red



20170102 GAC102N27M1 Red



20160108 skyflat Red



20160108 GAC073N15B1 Red

