IMAGETTES PIPELINE

STATUS REPORT

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ACTIVITIES SINCE LAST SC

Hard work of R. Cautain:

- Debug outputs to trace S/N variations inside the pipeline

- Detailed code analysis to trace problems and/or bugs

→ Lengthy process

- Correction of problems and bugs: see next slides

CORRECTED PROBLEMS

(in addition to those listed at the last SC)

- Incorrect mask calculation (pb with BG subtraction):

→ Masks too small → Lower flux + higher noise

- Large jitter variations:

→ Outliers in the lightcurve

- Incorrect BG subtraction option:

→ Lower flux + higher noise

(all CVS committed)

CORRECTED PROBLEMS

- Calculated mask is not convex:

  → Higher noise (jitter)

- Pre-existing hot pixels detection on saturated stars (+ edges)

  → Higher noise due to reparation

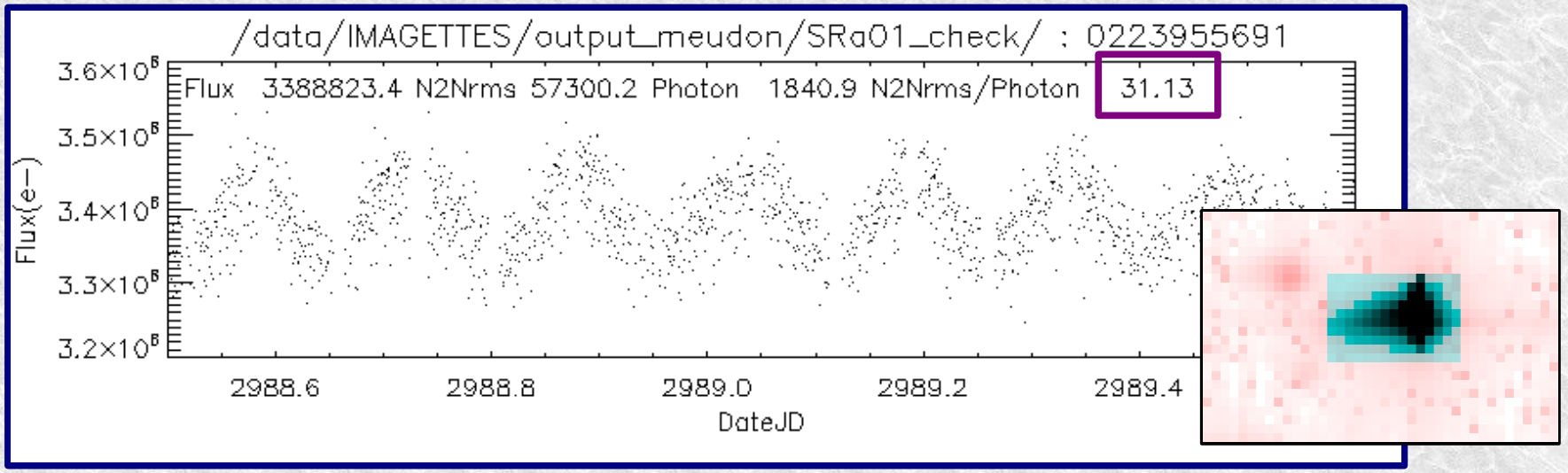
  → Higher noise due to bad jitter calculation

(not yet CVS committed)

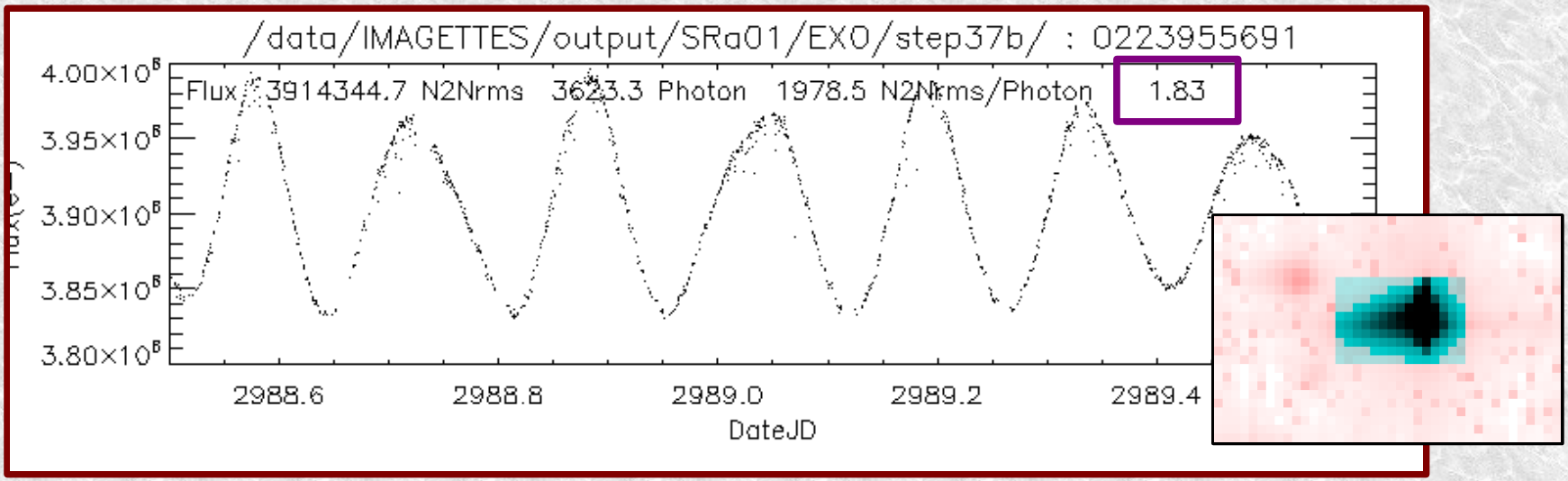
S/N IMPROVEMENT

SRa01 : Corot ID 223955691 : V = 10.2 (19sp)

OLD



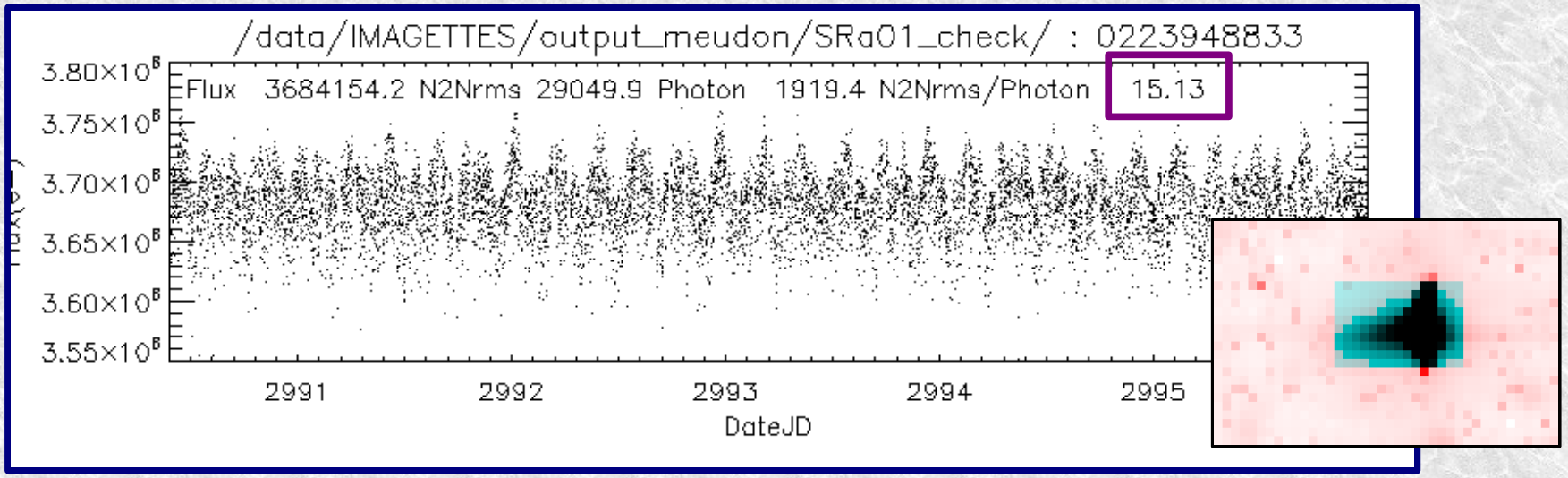
NEW



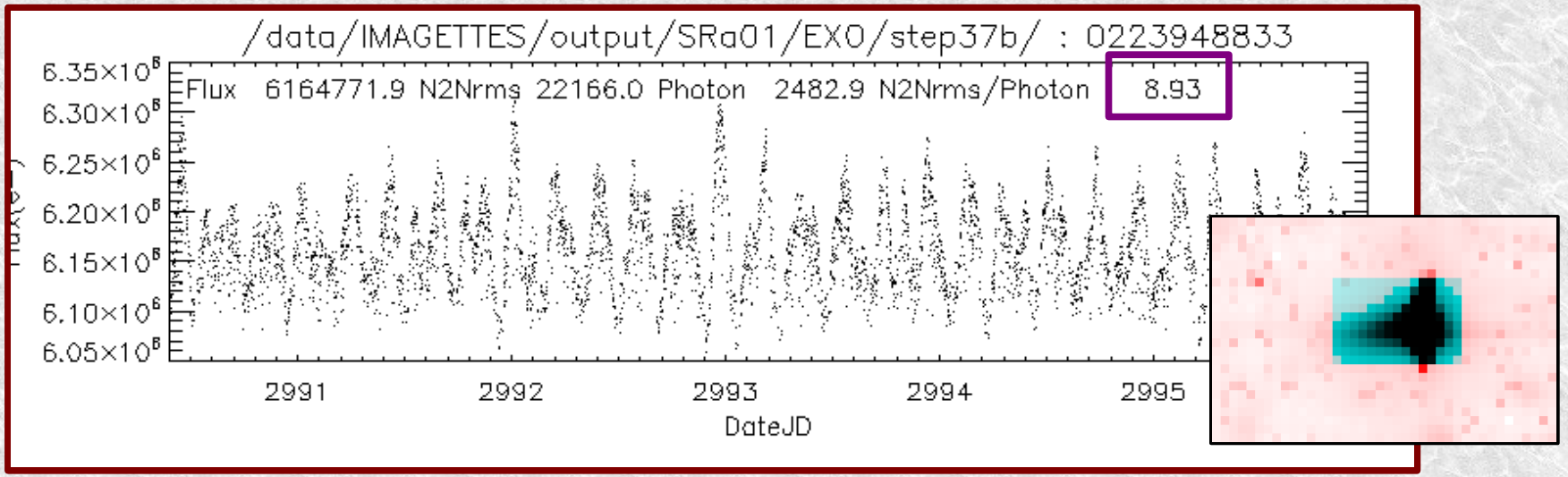
S/N IMPROVEMENT

SRa01 : Corot ID 223948833 : V = 9.8 (33ps)

OLD



NEW



PENDING PROBLEMS

- Cosmics detection & repair decreases the S/N:

  → not understood (currently under investigation)

- Application of photometric mask decreases the S/N:

  → not understood (mask too small?)

- Final cosmics detection doesn't work:

  → too many “cosmics” detected (bad threshold?)

  => Several corrections are still decreasing the S/N

- Degraded duty cycle for several (bright) stars

  → not understood (bad cosmics detection?)

END

S/N TRACE

step37 SRa01prod : find_interlopers NO EDGE CONDITION - correct interlopers (mean) - 5000 points

Rapport des bruits N2Nrms / Photon pour 5 cibles du SRa01

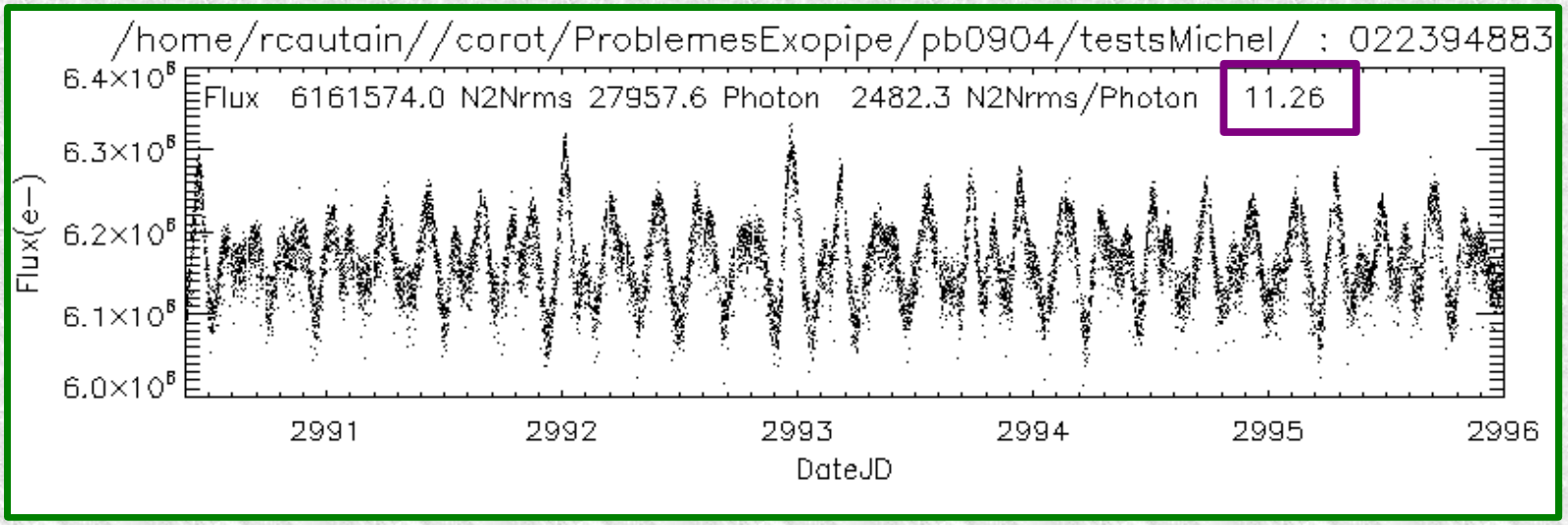
CorotID	Mag. R	Flux median IN	N2N/Ph : in	CR repair	Repair	Recent	Mask	Colors	Pass1+2	OUT
0223925179	12.6	214215	2.60	2.78	3.06	3.06	3.57	3.57	3.53	2.83
0223931446	12.4	2251000	7.13	9.41	9.41	9.41	9.76	9.76	8.83	6.17
0223948833	9.8	6179409	12.11	22.95	22.95	22.95	23.03	23.03	18.07	7.87
0223955691	10.2	3928491	2.18	15.19	15.19	15.19	15.00	15.00	5.95	1.76
0223965976	11.1	3441132	6.06	6.83	6.83	6.83	6.68	6.68	6.17	4.89

step38 IRa01_bkg : find_interlopers NO EDGE CONDITION - correct interlopers (mean) - 5000 points

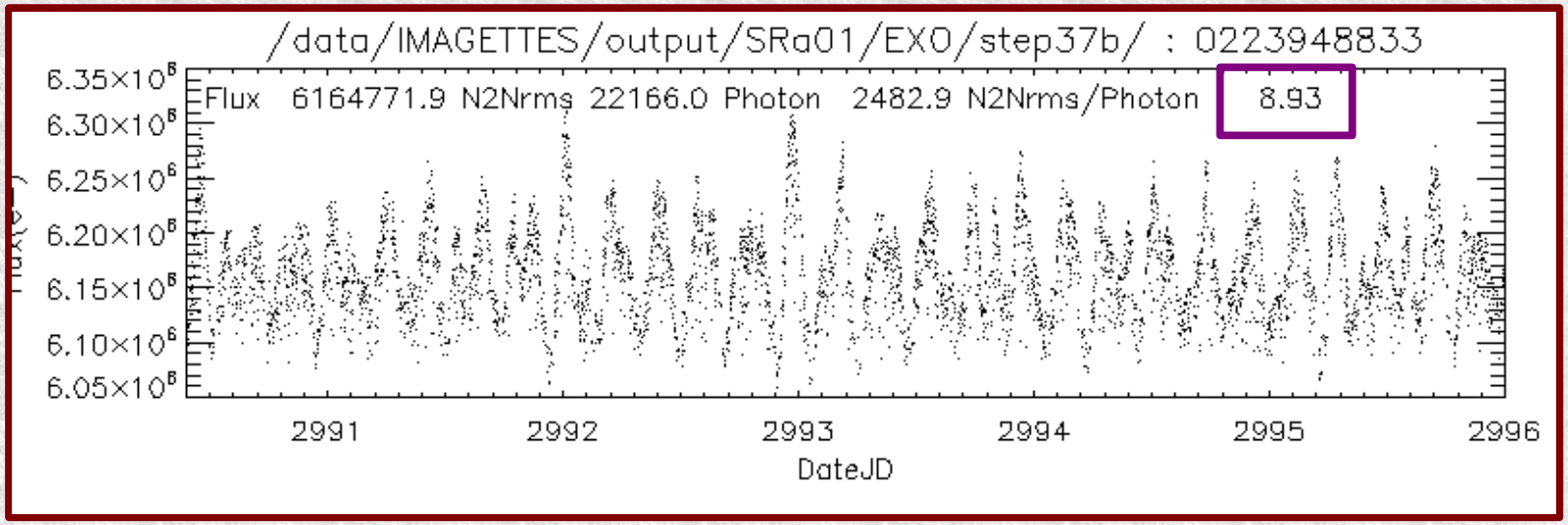
Rapport des bruits N2Nrms / Photon pour 5 cibles du IRa01

CorotID	Mag. R	Flux median IN	N2N/Ph : in	CR repair	Repair	Recent	Mask	Colors	Pass1+2	OUT
0102721925	12.2	642561	1.93	2.04	2.04	2.04	2.09	2.09	2.01	1.71
0102728724	12.6	420279	1.95	2.13	2.13	2.13	2.20	2.20	2.11	1.80
0102741215	12.2	613604	1.98	2.06	2.06	2.06	2.81	2.81	2.77	2.34
0102764478	12.4	523164	2.07	2.24	2.19	2.19	2.57	2.57	2.44	2.02
0102777271	12.3	551857	2.09	2.20	2.07	2.07	2.25	2.25	2.12	1.83

COMPARISON WITH M.A.'s LC

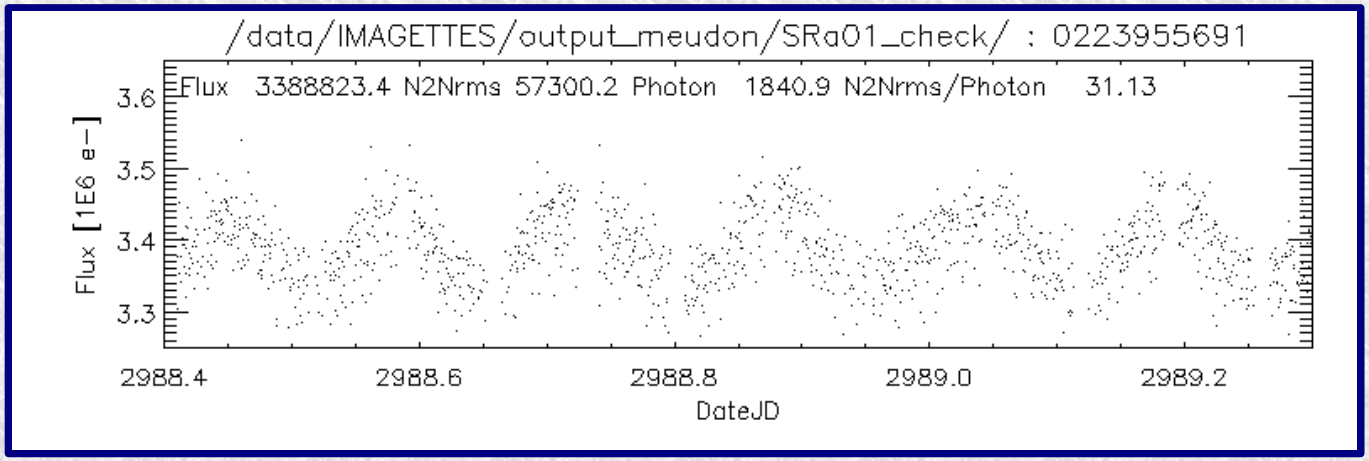


NEW

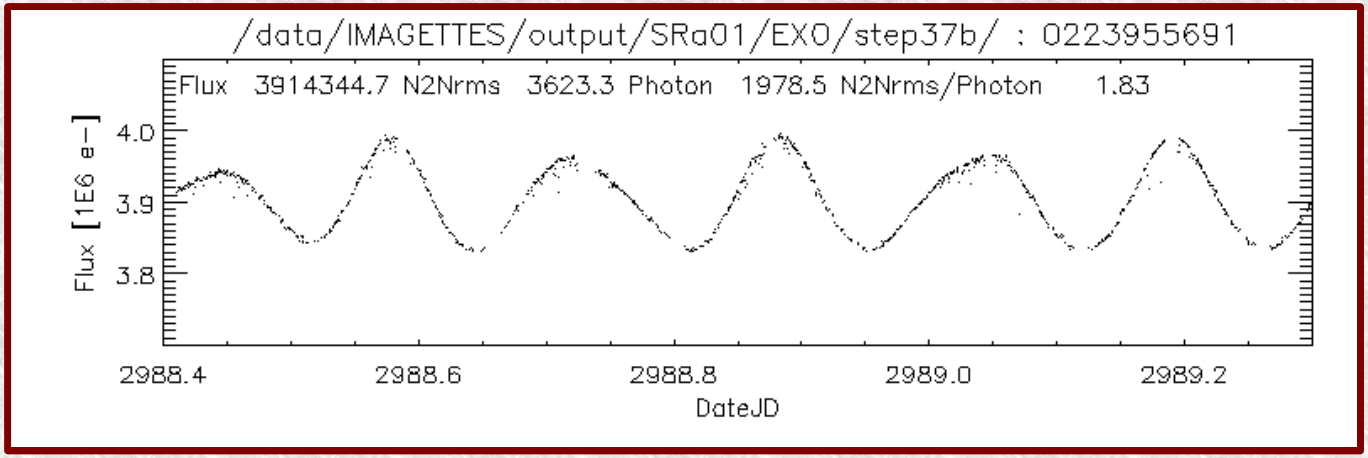
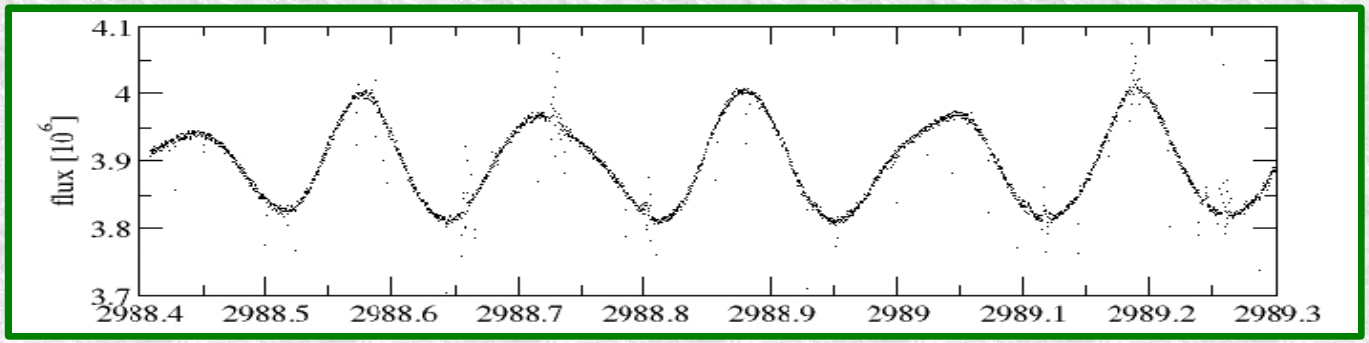


COMPARISON WITH VIENNA's LC

OLD



NEW



VIENNA