



FD long term monitoring using stars

Coihueco – Heat preliminary results

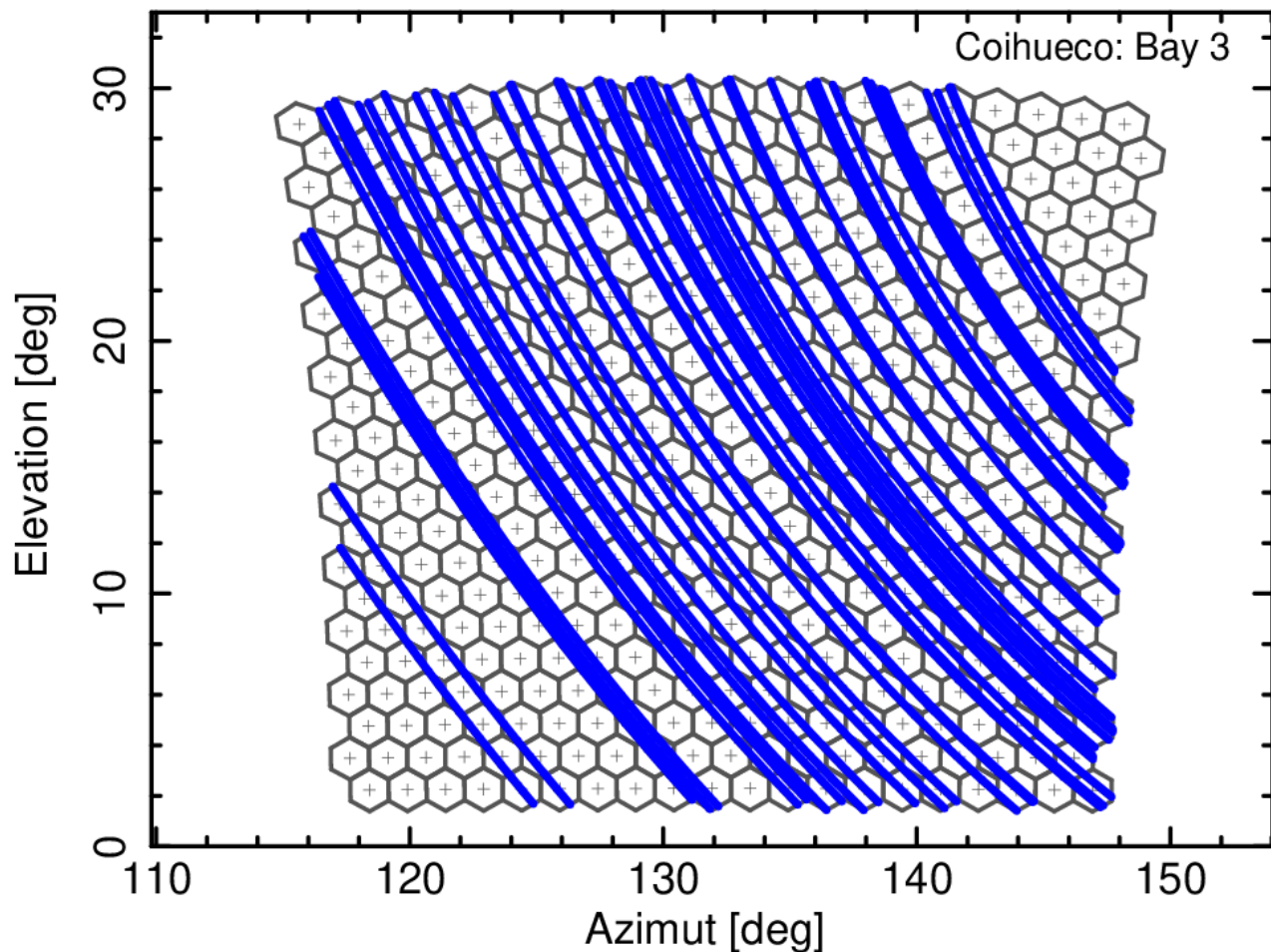
A. Segreto

Operation and Long Term Performance Meeting - June 16th 2020

Star selection: Coihueco Bay 3

Spectral type

Type	N. stars
W	1
O	1
B	39
A	5



Star brightness

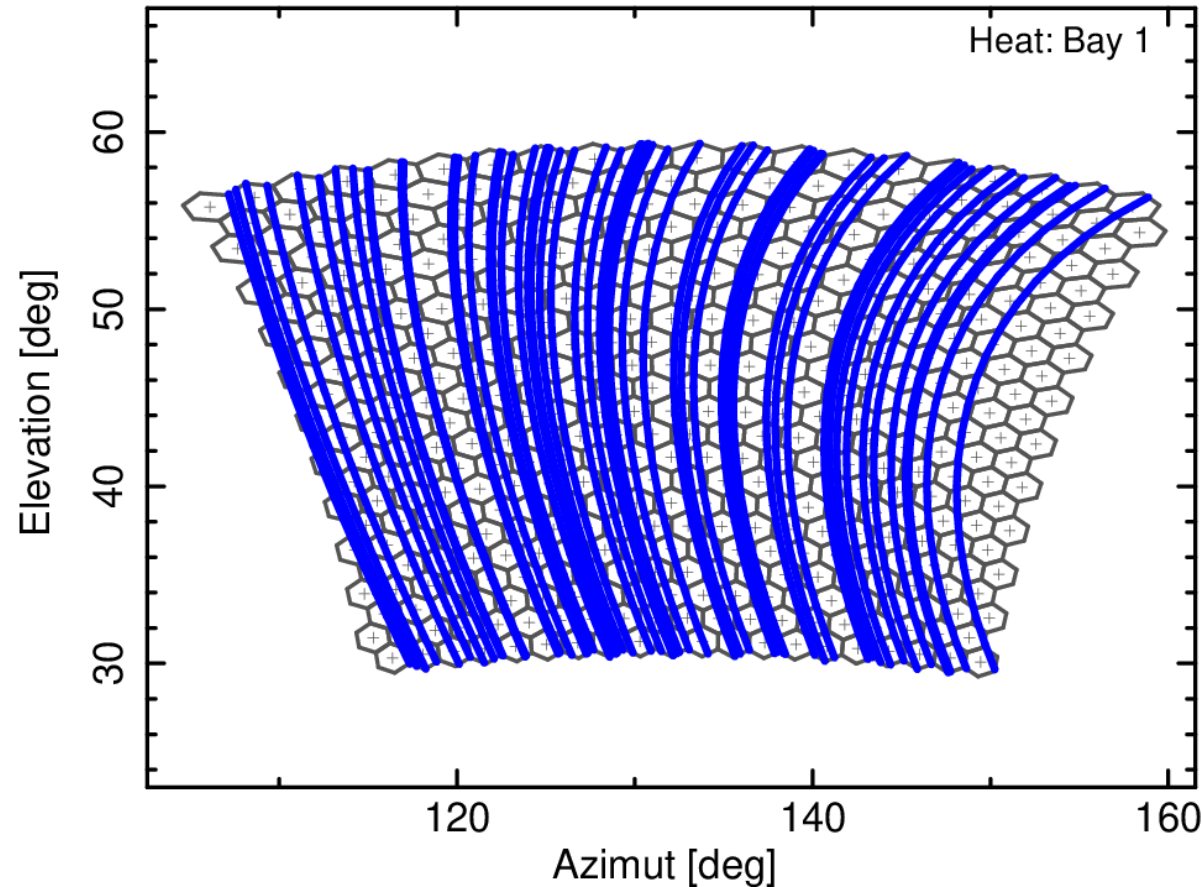
Umag	N. stars
-1 0	: 2
0 1	: 4
1 2	: 11
2 3	: 22
3 4	: 7
<hr/>	
46	

■ Tracks of the stars selected to monitor the Coihueco Bay 3 calibration status

Star selection: Heat Bay 1

Spectral type

Type	N. star
W	1
O	1
B	45
A	5
F	1
G	1



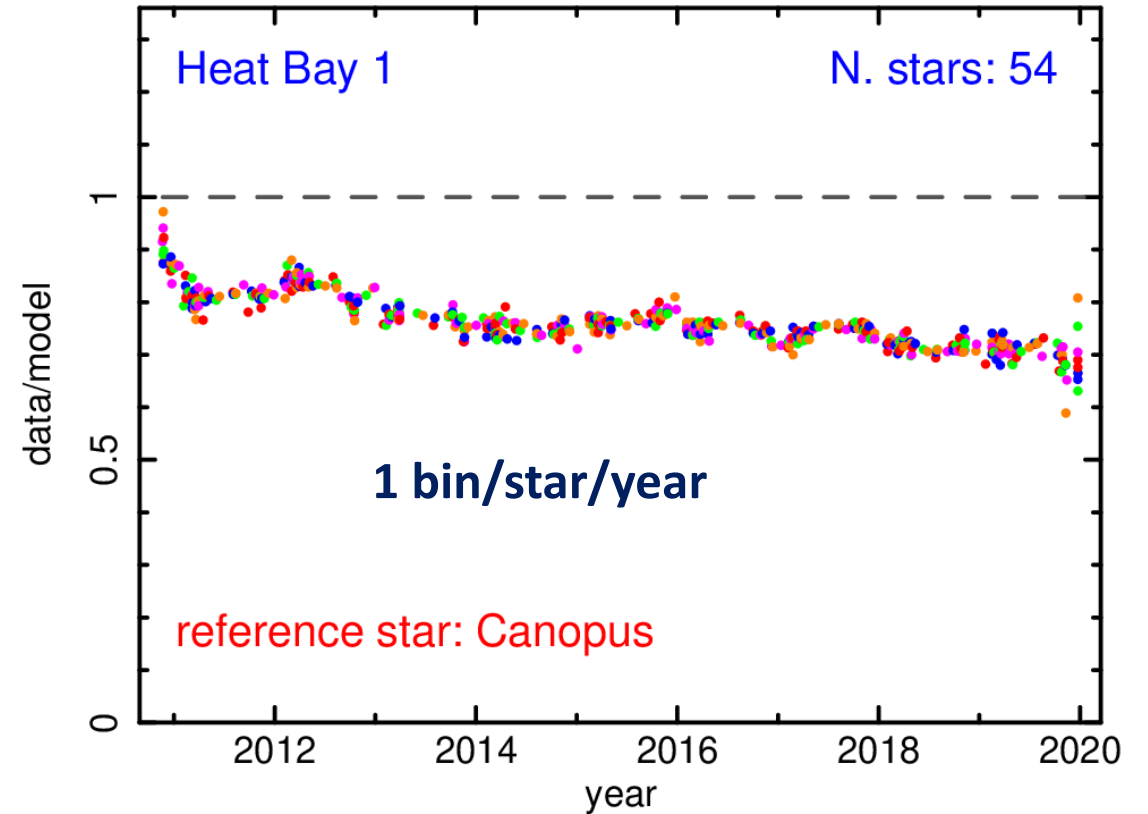
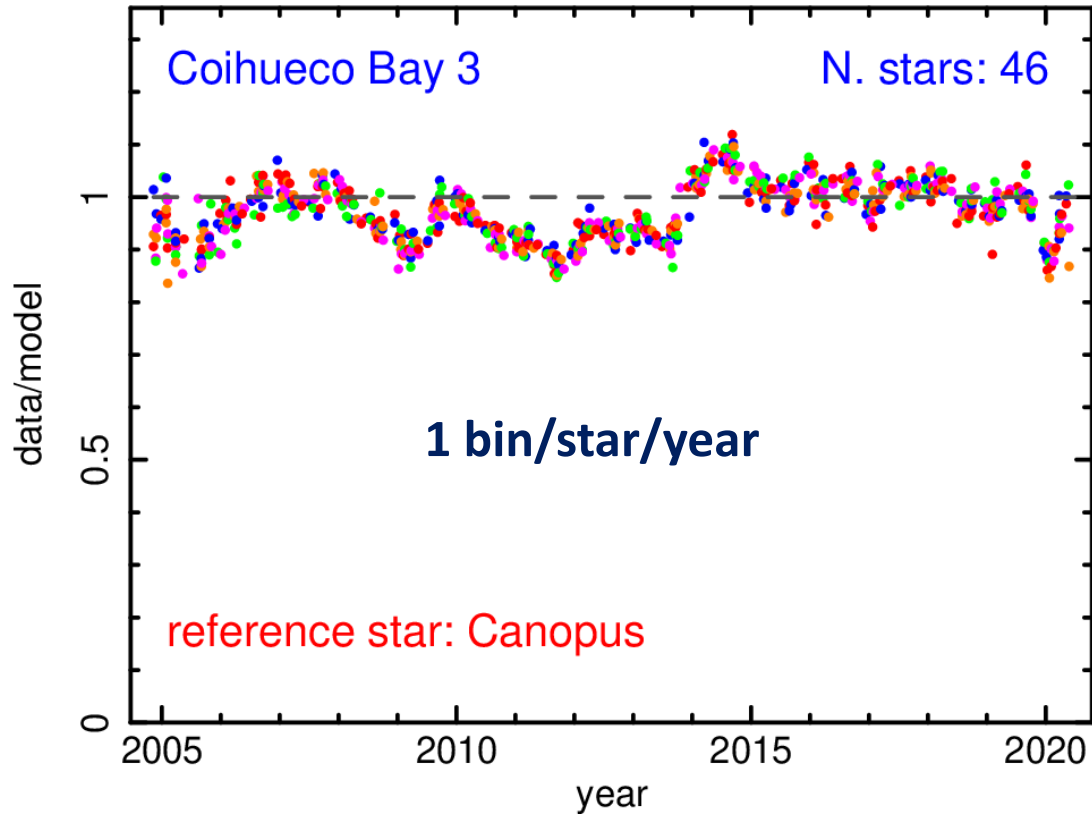
Star brightness

Umag	N. star
-1	0 : 2
0	1 : 6
1	2 : 14
2	3 : 21
3	4 : 11

	54

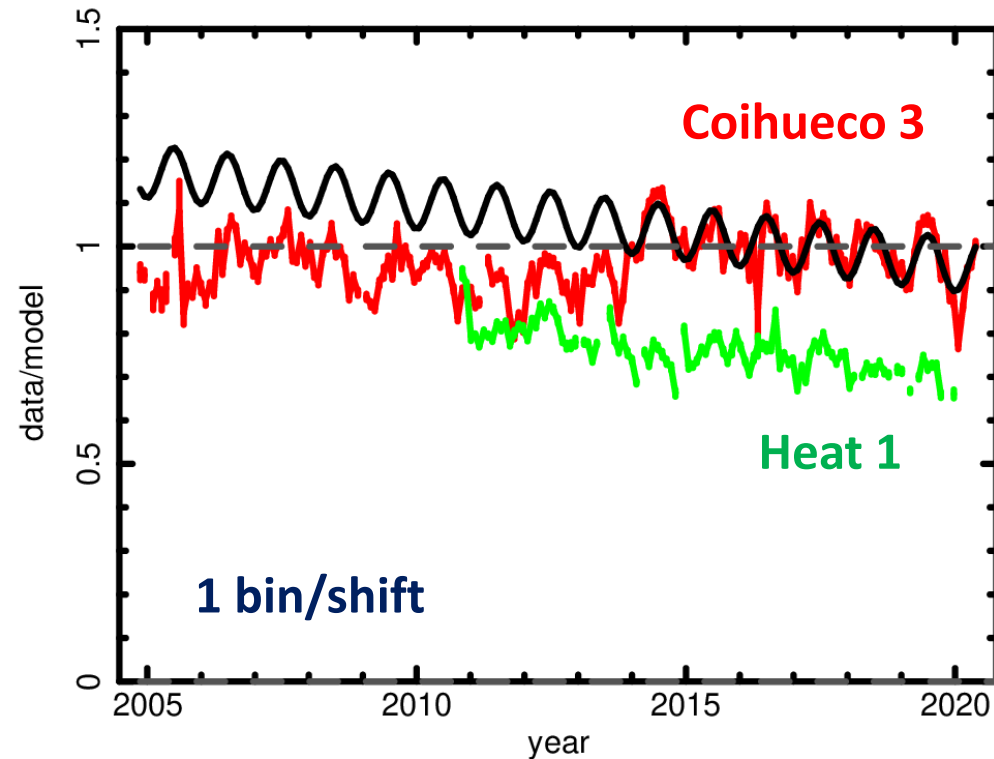
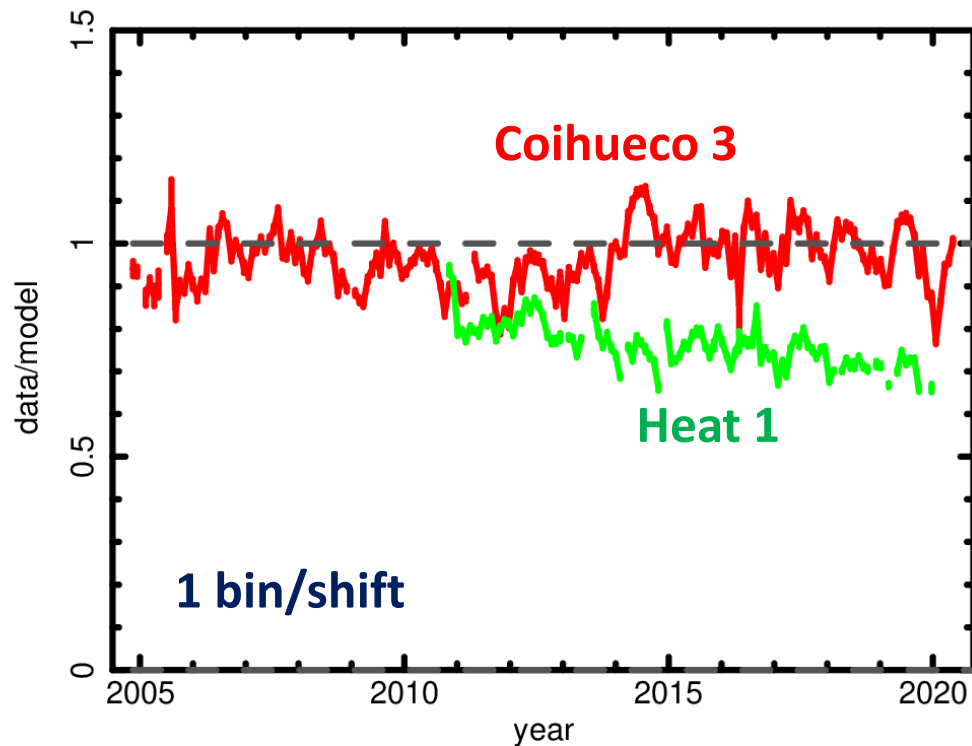
■ Tracks of the stars selected to monitor the Heat Bay 1 calibration status

Long term star flux evolution in Co3-He1



■ The signal of each star is rescaled to match the average signal of the reference star

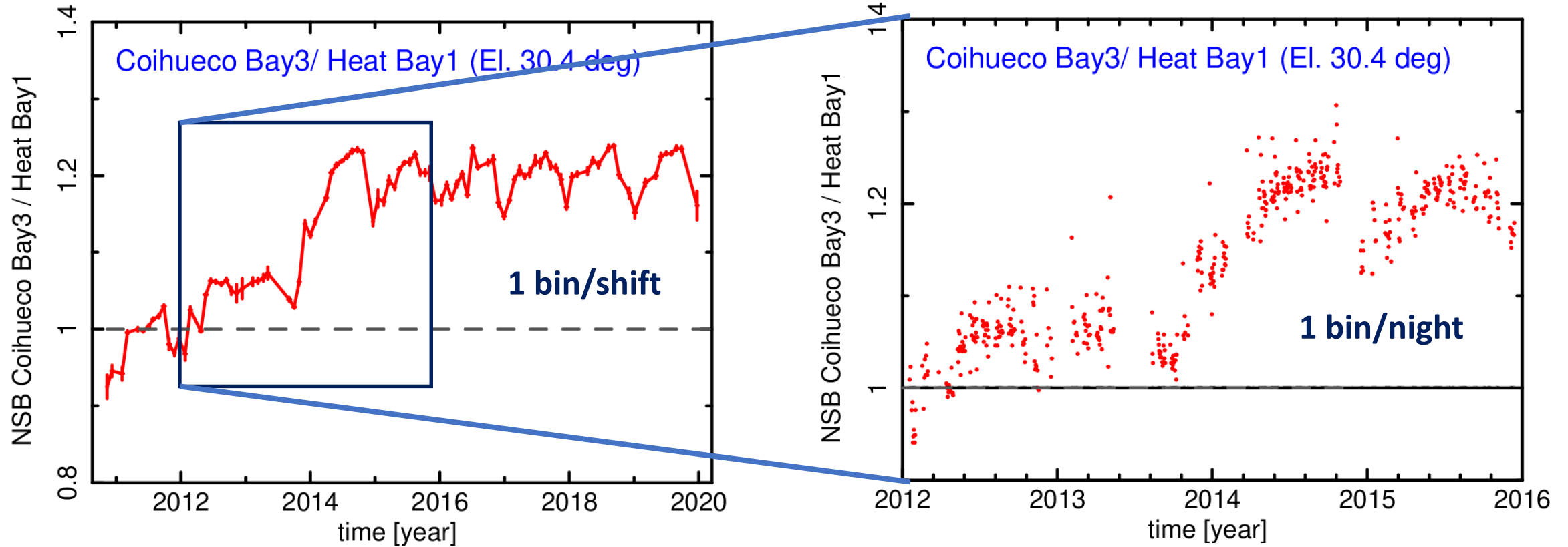
Long term evolution Co3-He1



CO= 29.93 , LI=-1.4345E-02, PE= 1.000 , PH= 81.24 , SN= 6.1160E-02
WV= 1379. , N= 67.00

- The Heat Bay 1 long term evolution is characterized by a systematic drift (-1.25%/year) without significant discontinuities
- Coihueco Bay 3 long term profile shows a drift (-1.43%/year), a significant seasonal modulation (+/- 6.1%) and a discontinuity (+15%) at end of year 2013

Diffuse NSB ratio: Co3/He1



CO₂ = 1,000

■ The ratio between the diffuse NSB in Co3 and He1 confirms the presence of a seasonal modulation and a strong discontinuity at end of year 2013

Coihueco Cleanings

4	5	03 07 2013	B	"calB fiber on right side of camera (viewed from behind) was removed and replaced --> camera illumination is expected to have changed"	"Hans, Jonny, Lenka"
4,5	1	03 09 2013	C	<i>Coihueco - Heat</i> Coihueco - Changed status light Heat - tenseness cable pull in B1 - cntrol sistem of protection hydraulic - Tranfer ups to DAQ	Primo - Leandro tasklog
4	5	28 10 2013	B	"calB fiber on right side of camera (viewed from behind) was removed and replaced on 03 11 2013 --> camera illumination is expected to have changed"	"Hans, Radomir, Kai, Lenka"
4	23	15 11 2013	BC	"mirrors were cleaned using wet procedure"	"Olomouc group"
4	3	07 03 2014	C	<i>Coihueco: Filter cleaning</i> Cleaned the filter of bay 3 on the outside, using first water with a little bit of dishwashing detergent, then window cleaner.	Leo, Kai tasklog
4	3	07 03 2014	C	<i>Coihueco</i> UV filter cleaning B3	Leandro tasklog
4	12456	17 03 2014	C	"uv-filters cleaned"	" task performed by Leandro G. "
4	12456	17 03 2014	C	<i>Coihueco</i> Uv filter B1,2,4,5,6	Leandro tasklog
4	3	03 07 2014	C	"Cleaned the filter of bay 3 on the outside, using first water with a little bit of dishwashing detergent, then window cleaner."	"Leandro, Kai"
4	3	03 07 2014	C	"uv-filters cleaned"	" task performed by Leandro G. "
4	12356	29 04 2015	C	"uv-filters cleaned"	" regular cleaning by Leandro & Primo "

- Some cleaning activity on Coihueco Bay 3 is reported at the end of 2013 but none that could explain the strong discontinuity (+15%) observed with respect to the other bays

TO BE CONTINUED