



WG10 Working Group Session

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GES2017



Sections from preliminary WG10 Abundance Homogenisation Report.
Full report will be available with files via WFAU asap.



Team Member	Tasks
Carlos Allende (WG10 Lead)	Review of node files and reports. Investigation of trends, ALPHA_FE. Review of homogenised results
Clare Worley (WG15)	Develop and run homogenisation routines for all WG10 columns except those associated with LI1 in HR15N
Elena Franciosini (Arcetri)	Develop and run homogenisation routines for columns associated with LI1 in HR15N
Laura Magrini (WG15)	Review versions of WG10 homogenisation results
Patrick Francois (WG15)	Review versions of WG10 homogenisation results
Anna Hourihane (WG15)	Review versions of WG10 homogenisation results



WG10 Node Abundance Results Summary:

Milky Way SETUPS

Core Columns	EPINARBO	Lumba	Vilnius	OACT	CAUP	IAC	Nice	iDR4
HR10 HR21								
ALPHA_FE	-	16897	-	-	15155	35285	38457	23426
VRAD	-	16927	-	-	-	-	-	-
VSINI	-	16932	-	-	-	-	-	-
C1	-	5	-	-	-	-	-	-
MG1	-	16894	21334	-	14626	-	-	18587
AL1	-	14226	21308	-	12887	-	-	12183
SI1	-	16162	21331	-	14828	-	-	14109
CA1	-	15885	21305	-	12853	-	-	13123
CA2	-	16925	21332	-	-	-	-	12658
SC2	-	13258	-	-	11064	-	-	-
TI1	-	15155	21333	-	-	-	-	12402
TI2	-	13880	21289	-	5755	-	-	7921
V1	-	9	-	-	-	-	-	-
CR1	-	15321	21325	-	11899	-	-	9109
MN1	-	12166	21328	-	-	-	-	8774
FE1	-	16976	21335	-	15353	-	-	18660
FE2	-	-	21150	-	-	-	-	-
CO1	-	6163	21310	-	-	-	-	3750
NI1	-	7915	21328	-	6573	-	-	5003
Y2	-	128	21109	-	-	-	-	-
ZR1	-	473	-	-	-	-	-	-
MO1	-	560	-	-	-	-	-	-
ND2	-	3298	-	-	-	-	-	-
REMARK	-	-	-	-	-	-	1129	5
TECH	11171	42456	22356	-	42153	8398	-	8583
VMAC	-	16976	-	-	-	-	-	-
VMIC	-	16976	-	-	-	-	-	-
HR21 (Bulge only)								
ALPHA_FE	-	4927	-	-	5163	5517	5600	2510
VRAD	-	4931	-	-	-	-	-	-
VSINI	-	4931	-	-	-	-	-	-
MG1	-	4927	5233	-	5110	-	-	2292
AL1	-	4689	5220	-	4603	-	-	2196
SI1	-	4917	5235	-	5020	-	-	2268
CA2	-	4922	5235	-	-	-	-	1373
TI1	-	4504	5229	-	-	-	-	1864
FE1	-	4931	5235	-	5191	-	-	2292
NI1	-	-	5127	-	-	-	-	-
REMARK	-	-	-	-	-	-	949	-
TECH	476	4931	373	-	5608	91	-	42
VMAC	-	4931	-	-	-	-	-	-
VMIC	-	4931	-	-	-	-	-	-

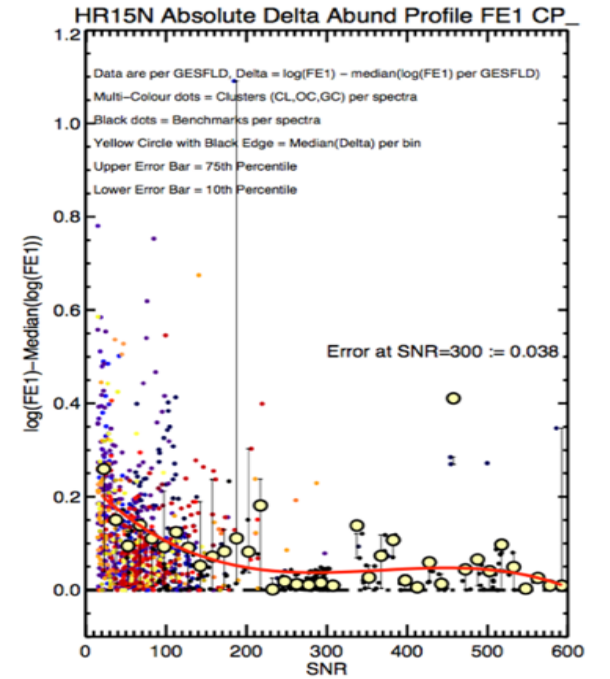
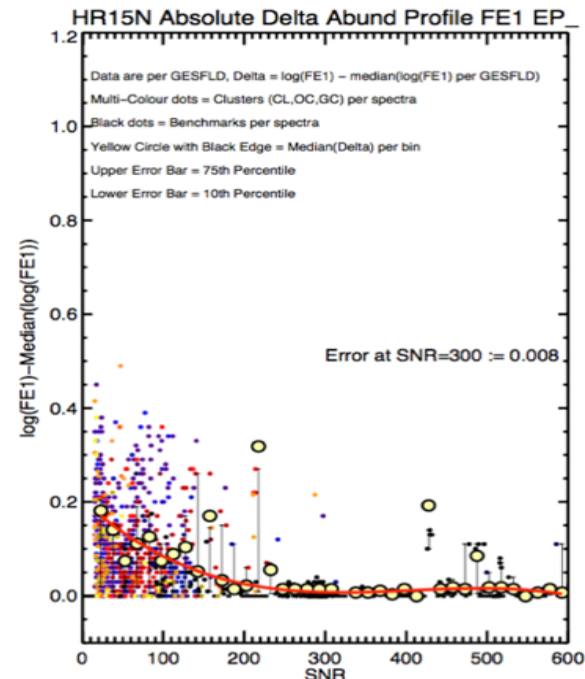
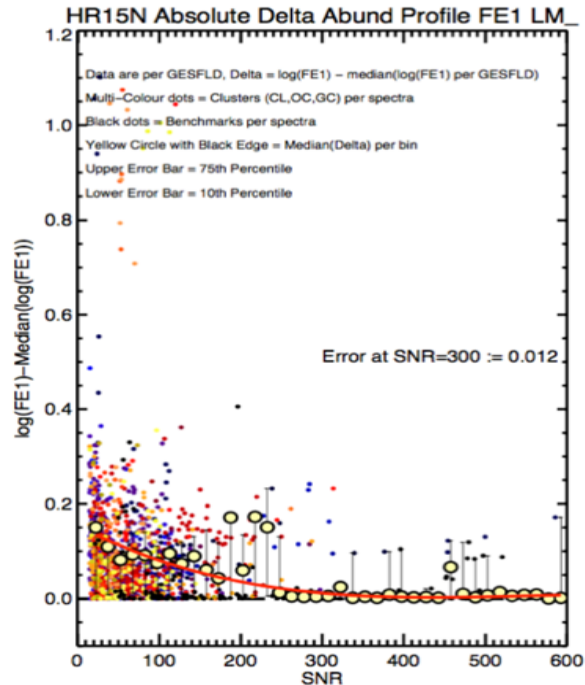
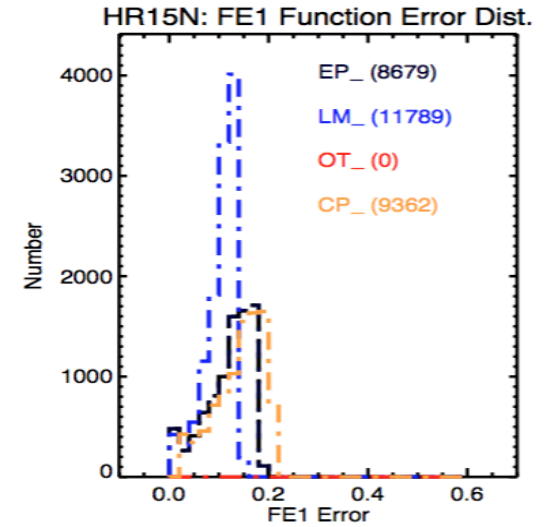
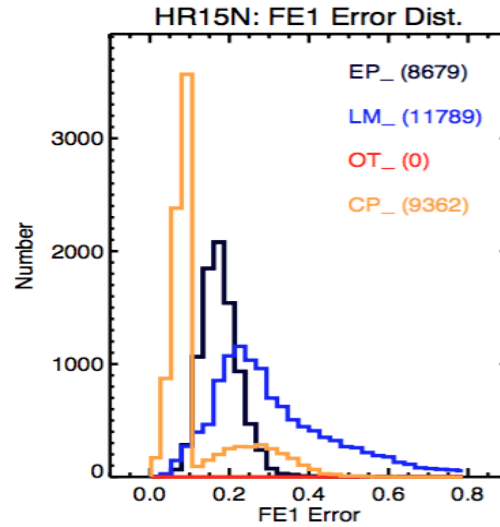


WG10 Node Abundance Results Summary:

Open Cluster SETUPS

CoreCol	EPINARBO	Lumba	Vilnius	OACT	CAUP	IAC	Nice	iDR4
HR15N								
ALPHA_FE	-	10912	-	-	9352	-	-	1200
VRAD	-	11983	-	-	-	-	-	-
VSINI	-	11981	-	15235	-	-	-	-
LI1	15262	3916	-	5020	-	-	-	9218
C1	-	3	-	-	-	-	-	327
AL1	8645	5247	-	-	-	-	-	963
SI1	8642	7675	-	-	5382	-	-	2116
CA1	8658	10691	-	-	9438	-	-	3291
SC2	-	-	-	-	5487	-	-	-
TI1	-	9266	-	-	-	-	-	5082
FE1	8679	11994	-	-	9548	-	-	-
CO1	-	5919	-	-	-	-	-	2816
NI1	8456	9620	-	-	8671	-	-	3013
BA2	-	7376	-	-	-	-	-	3773
EU2	-	2830	-	-	-	-	-	-
EW_LI	17118	-	-	5151	-	-	-	-
EWC_LI	14083	-	-	5080	-	-	-	-
EW_HA_ACC	-	-	-	558	-	-	-	-
HA10	-	-	-	412	-	-	-	-
EW_HA_CHR	-	-	-	2546	-	-	-	-
FHA_CHR	-	-	-	2498	-	-	-	-
PECULI	21	-	-	382	-	-	-	224
REMARK	-	-	-	-	-	-	-	539
TECH	13693	14603	-	4619	15834	19523	-	1698
VMAC	-	11994	-	-	-	-	-	-
VMIC	-	11994	-	-	-	-	-	-
HR15								
TECH	49	15	-	-	299	299	-	43
HR9B								
TI1	799	-	-	-	-	-	-	324
CR1	818	-	-	-	-	-	-	324
FE1	706	-	-	-	-	-	-	574
TECH	2388	952	-	-	3215	3215	-	1413

Weighting by Error:
 Need estimate of error
 based on same sample
 per node -> ENN_



Function Error:
 Delta of Abundance (eg
 FE1) as a function of SNR

WG10 iDR5 Abundance Homogenisation Procedure

The figure below shows an example of the **initial** scheme including limits for a particular CNAME and the node values for AL1, TI1 and TI2. (This applies to all abundances EXCEPT Lithium. See next slide.)

Black points are the individual node results (black error bar is the node-reported error, the red error bar is the function error),

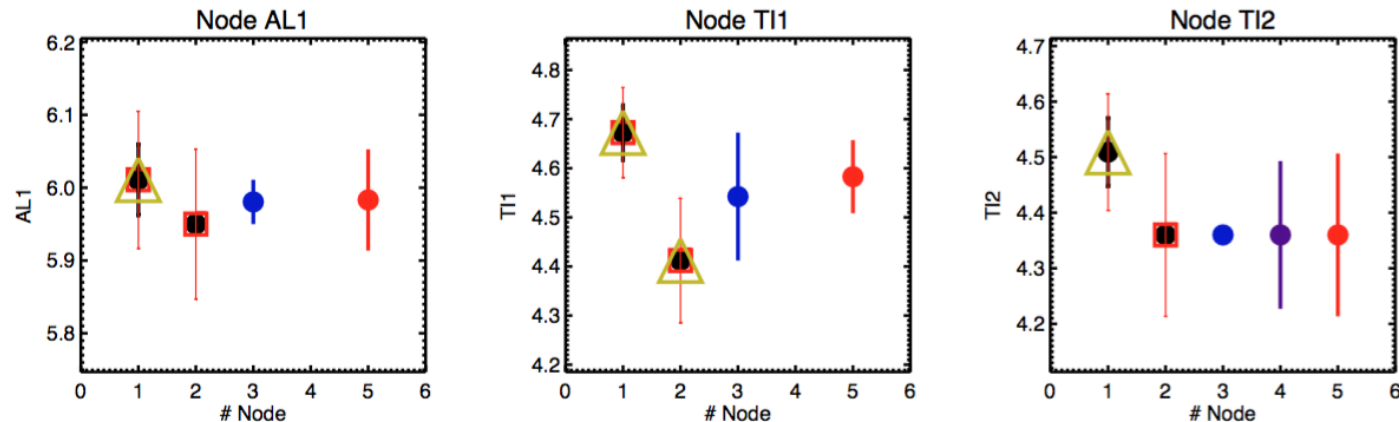
Blue point is the mean and STD on the node results

Purple point is the weighted mean using the node-reported errors (not calculated on just limits),

Red point is the weighted average using the function error.

If a black point has a yellow triangle it is a limit.

If a black point has a red square it was used in the calculation of the homogenised value (red point):.



Final Procedure: The case of the first panel was changed so that only the detection is used to calculate the abundance. See full report when it is available on WFAU along with the files.



WG10 iDR5 Lithium Homogenisation Procedure

1. Only one measure or upper limit available: that value is taken as recommended value
2. All detections: the recommended value is the average of the detections, and the error is the standard deviation.
 1. When 3 measures are available, an eventual sigma-clipping was applied, excluding one value if it differs from the mean by more than twice the error.
 2. When 2 measures only are available, a recommended value is given only if the measures differ by less than twice the error.
3. Mix of detections and upper limit: the detection or the average of the detections is given as recommended value, following the prescription above.
4. All upper limits: the lower upper limit is given as recommended value.
5. The errors used in point 2 to compare the measures are the EPINARBO ones when available, since these are generally intermediate between the other nodes and more realistic, or the average of the Lumba and OACT errors otherwise, with a minimum of 0.1 dex.

Node	Detections	Limits
EPINARBO	9340	4619
Lumba	1551	1393
OACT	4080	4080

