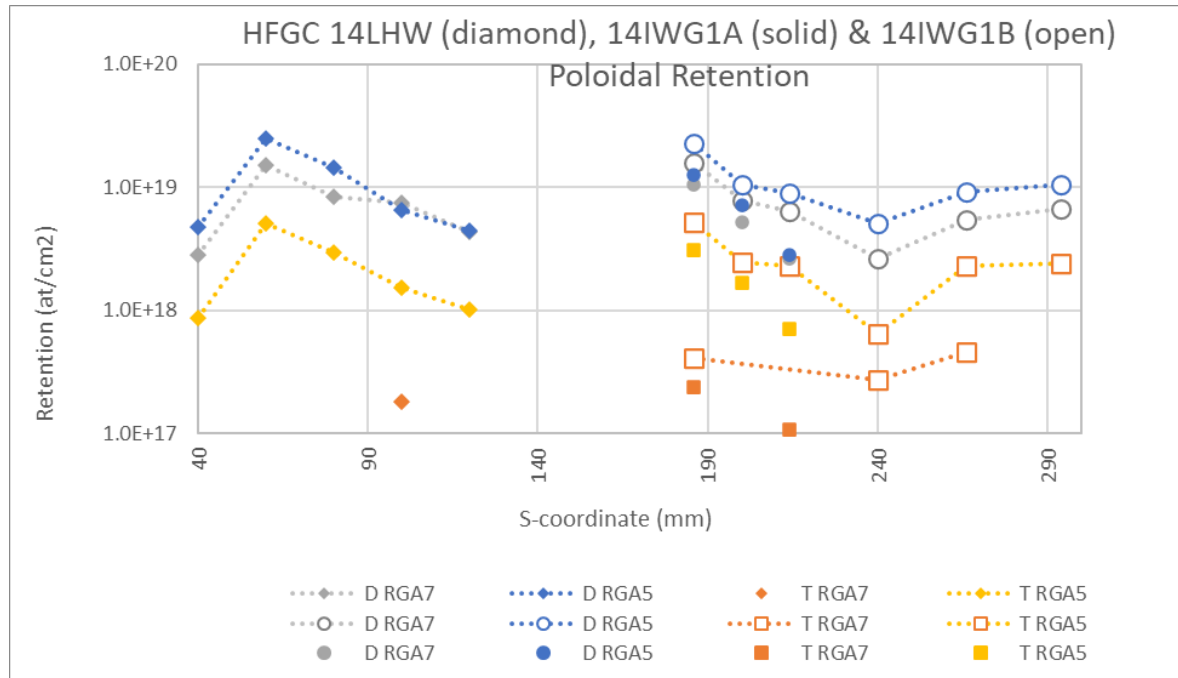


LID-QMS areal fuel retention at end of JET operations 19 & 20 December 2023

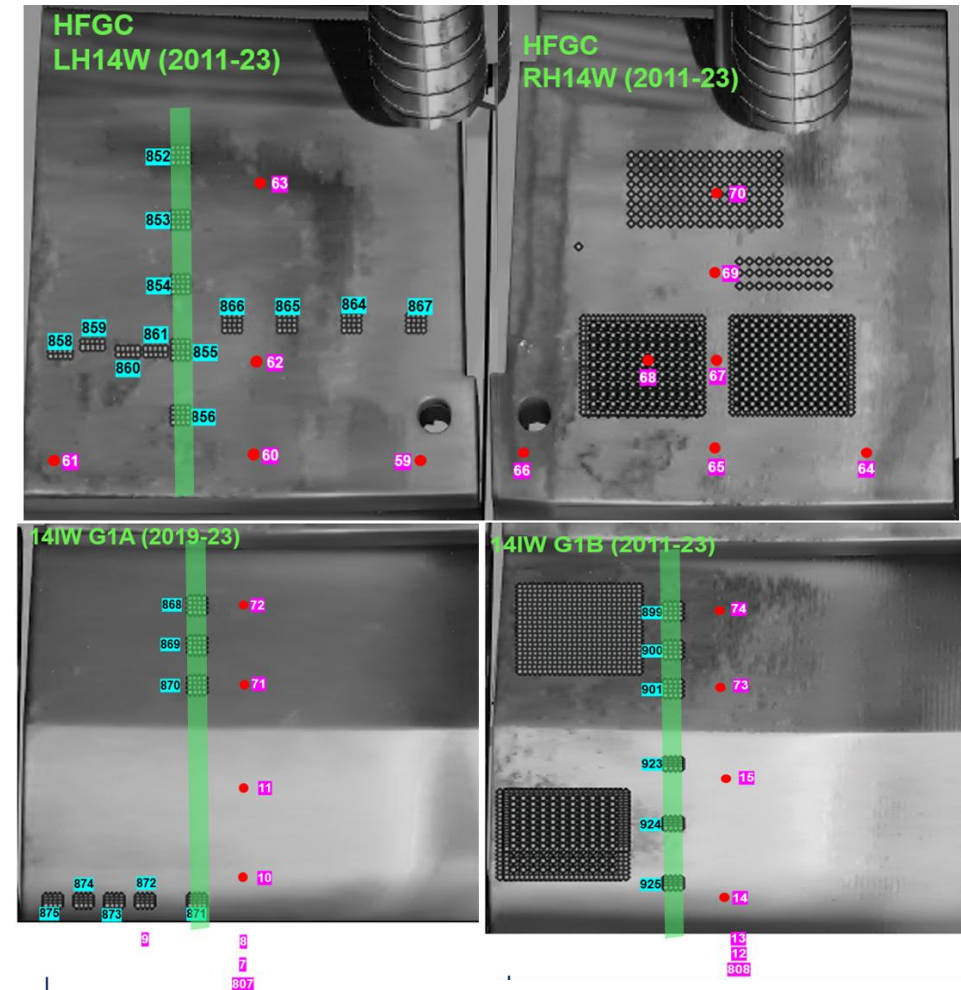


Assumptions:

AMU4 calibration factor used for AMUs

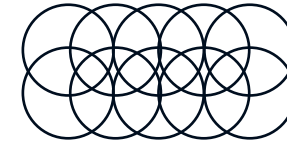
19/12/2023 AMU4 calibration factor used for 20/12/2023 data points

Calibration = Jump method



Assumptions

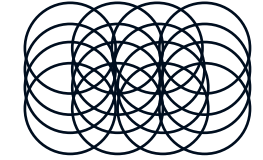
- Area of laser raster is approximate
- Gas calibrations from 19th December for AMU4
 - No calibration for 20th December
 - No scaling for AMU3, 5, 6
- AMU converted to atoms
 - AMU2 = 2 x H
 - AMU3 = 50:50 H:D
 - AMU4 = 2 x D
 - AMU5 = 50:50 D:T
- Jump method for data analysis and calibration factor
 - Started to apply 3σ
 - Any jumps $< 3\sigma$ considered limit of detection
- No pumping of calibration gas puffs...see Gennady's presentation later



5 x 2
1.5 mm step in x & y
~0.405 cm²

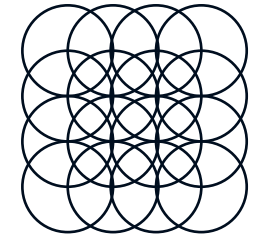
4 x 4

1.5 mm step in x
1.0 mm step in y
~0.45 cm²



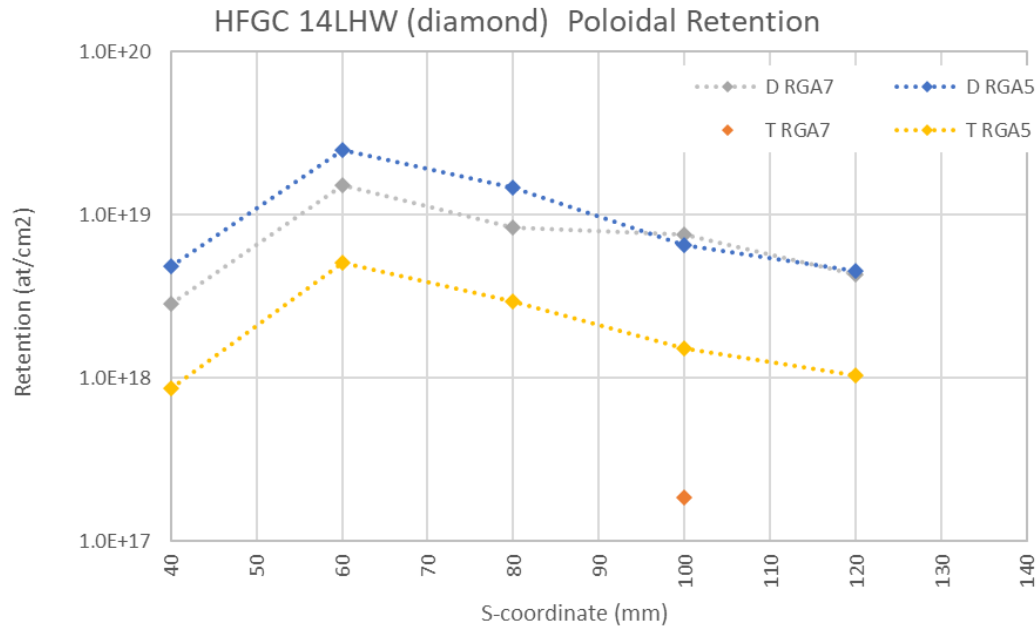
4 x 4

1.5 mm step in x & y
~0.563 cm²

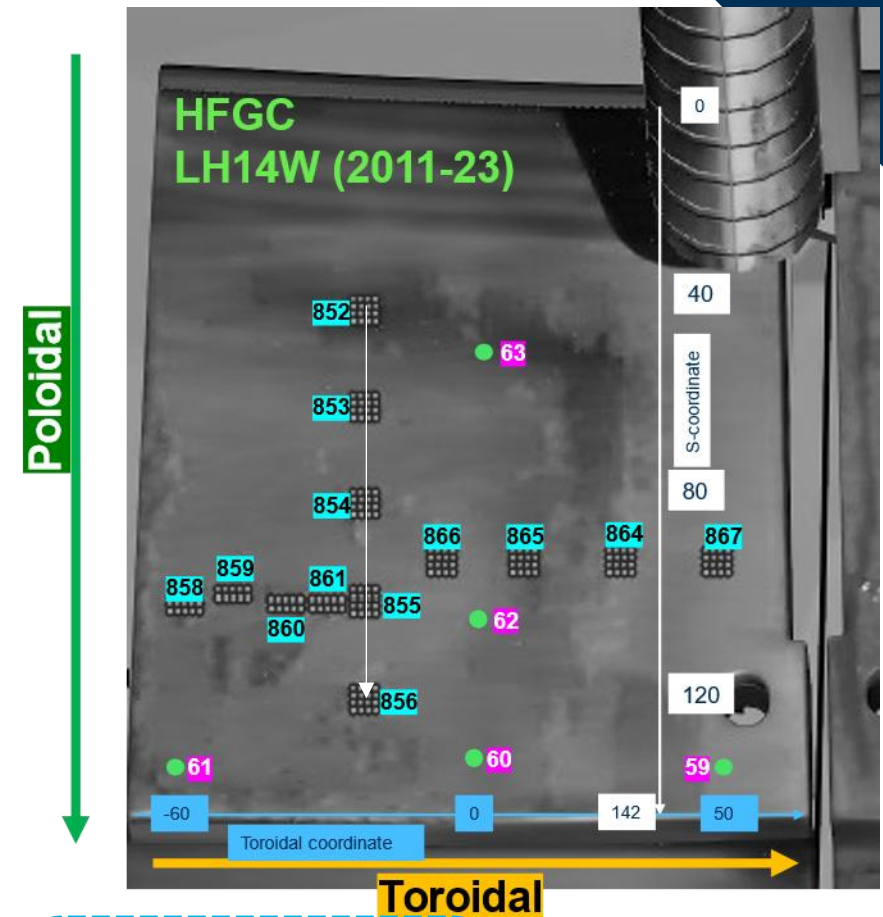


HFGC LH14W

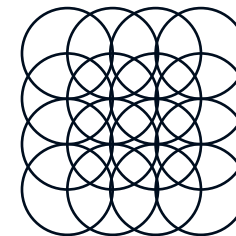
HFGC LH14W Poloidal



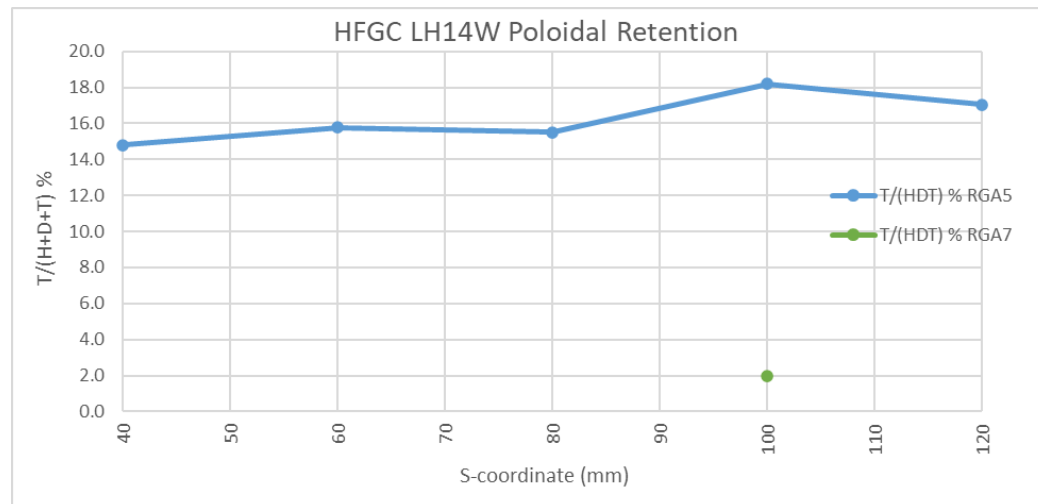
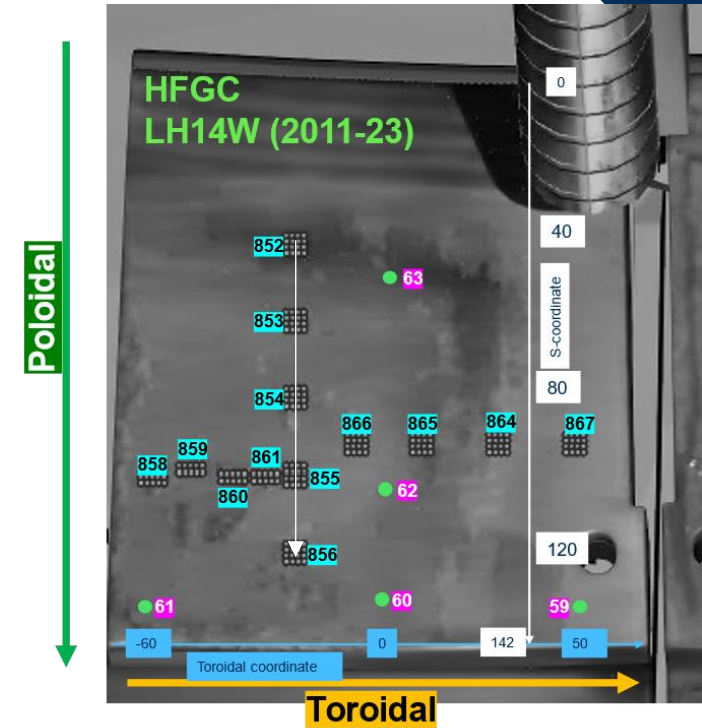
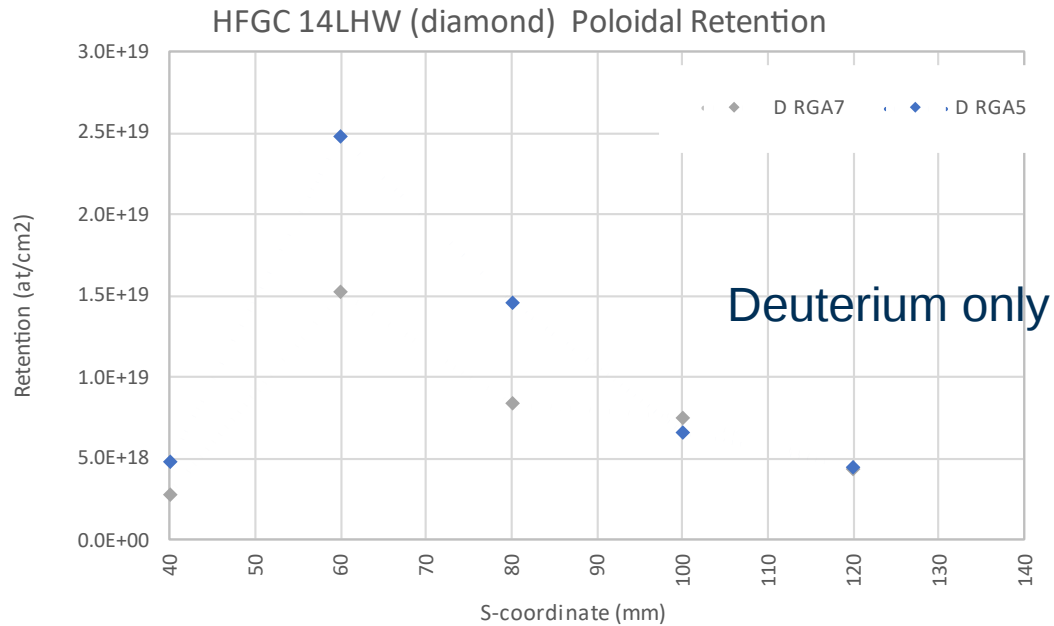
- Area used is large $\Rightarrow$ areal retention will increase
- Ratio of RGA5 D/T very uniform $\Rightarrow$ issue with data?
- All data collected on 19th December



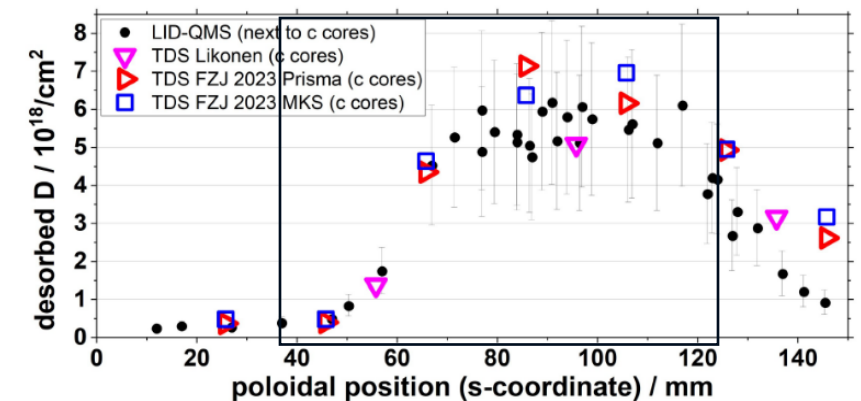
4 x 4
1.5 mm step in x & y
 $\sim 0.563 \text{ cm}^2$



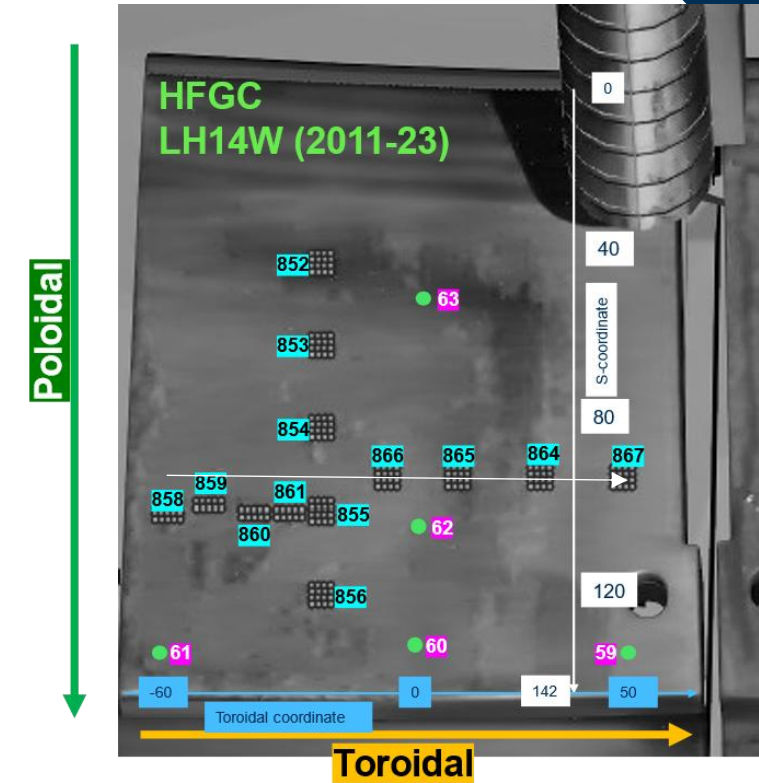
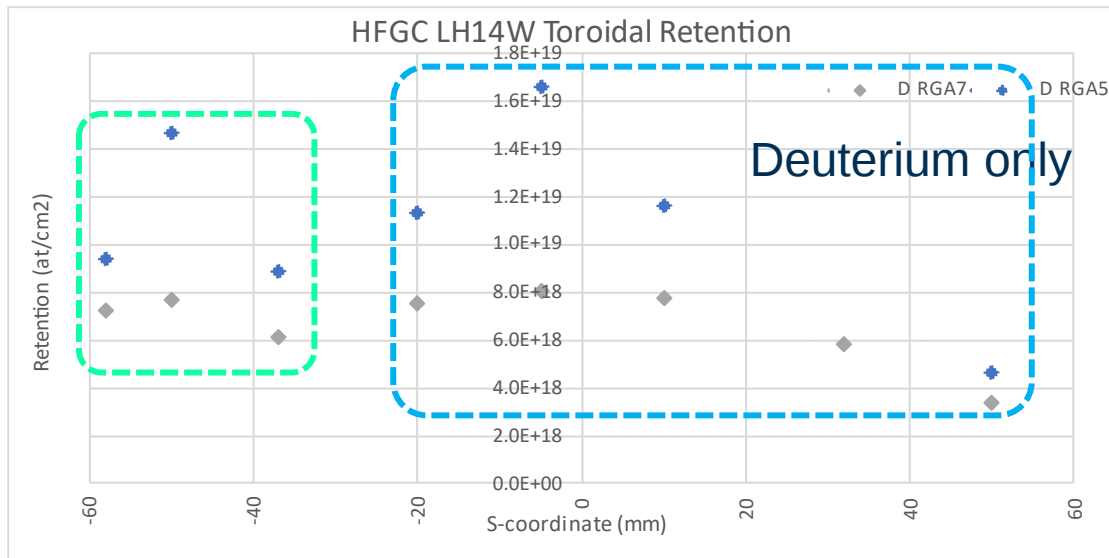
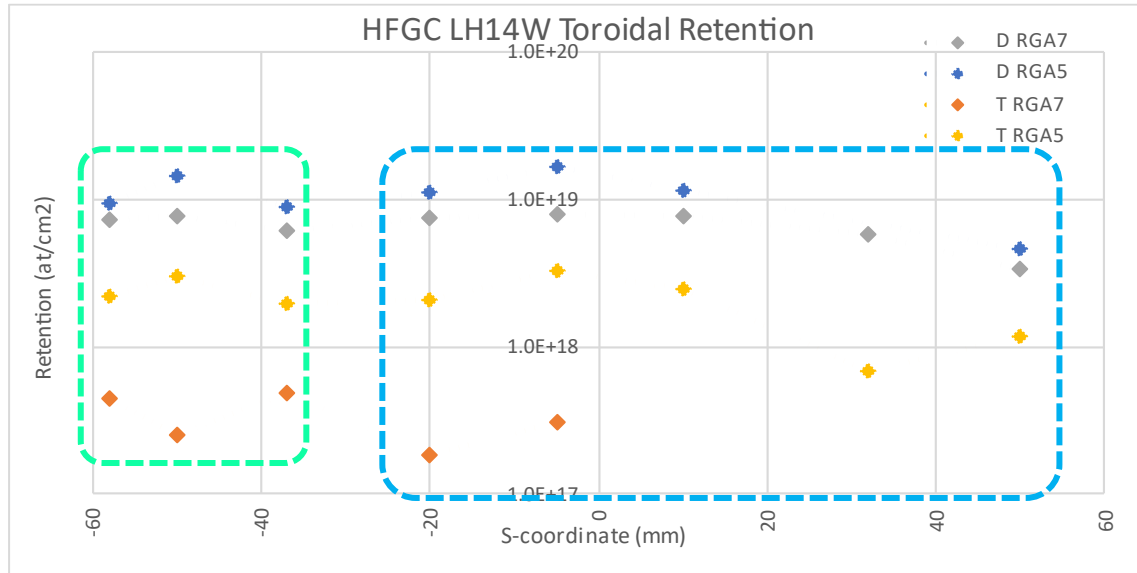
HFGC LH14W Poloidal



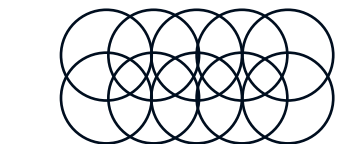
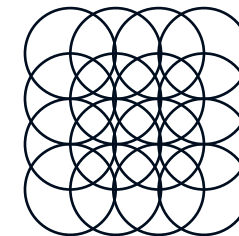
Indicative retention from previous post-mortem
Lots of caveats....



HFGC LH14W Toroidal



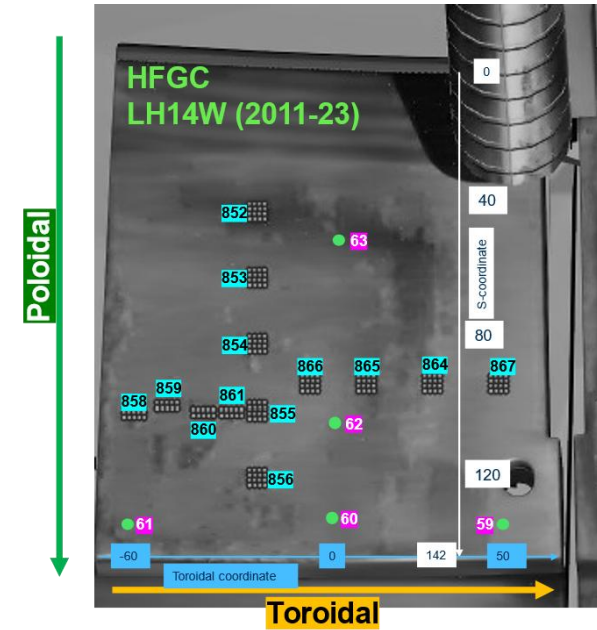
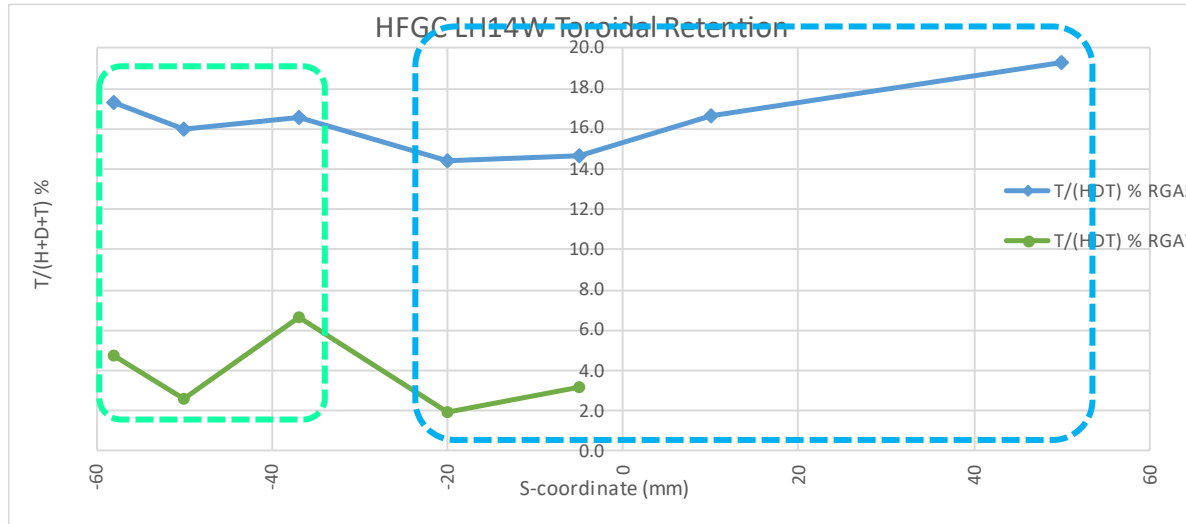
4 x 4
1.5 mm step in x & y
~0.563 cm²



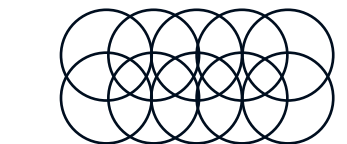
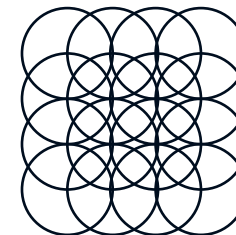
5 x 2
1.5 mm step in x & y
~0.405 cm²

HFGC LH14W Toroidal

T/(H+D+T) %



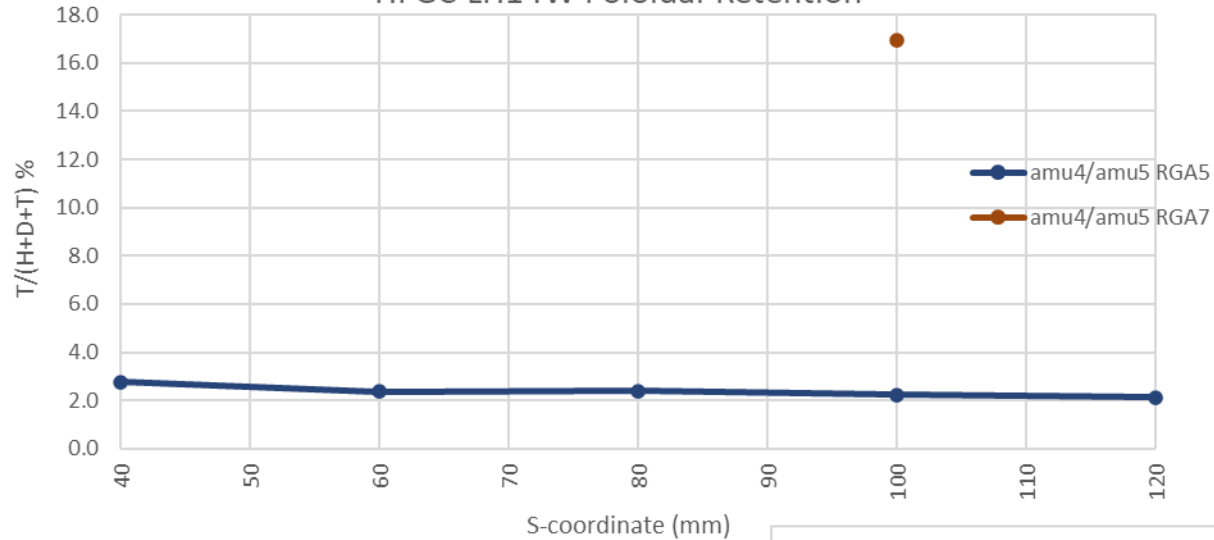
4 x 4
1.5 mm step in x & y
~0.563 cm²



5 x 2
1.5 mm step in x & y
~0.405 cm²

AMU4/AMU5 for RGA5 and RGA7

HFGC LH14W Poloidal Retention

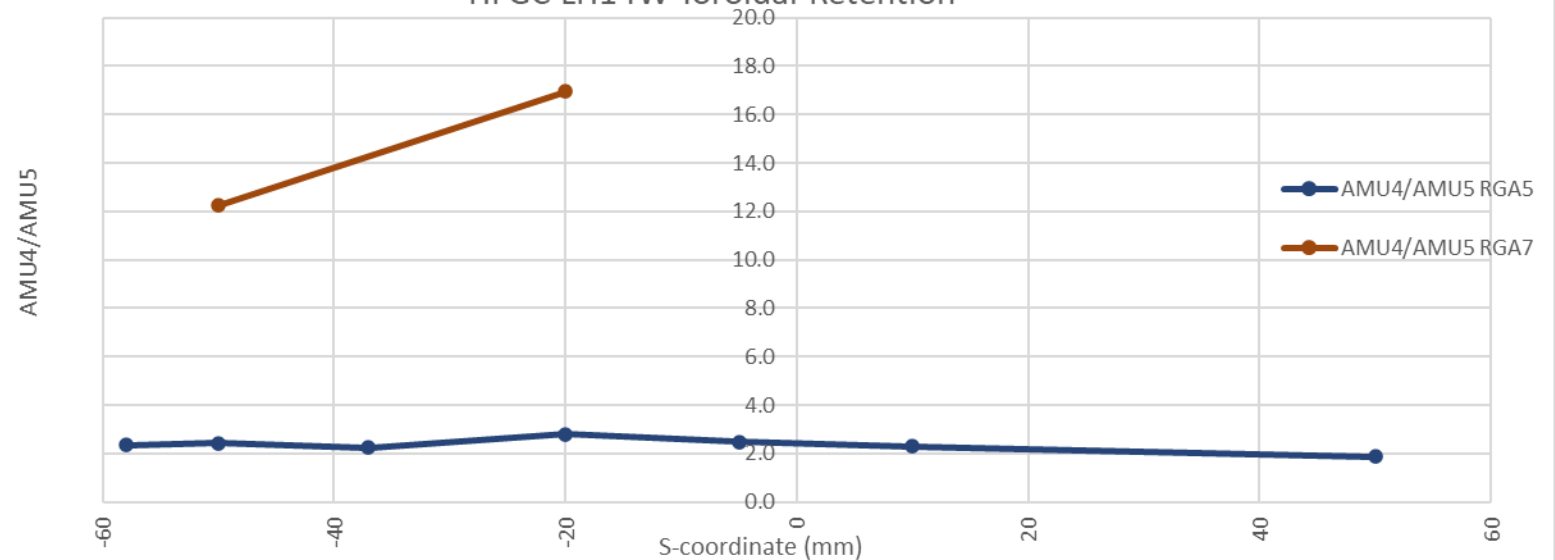


RGA7: AMU4 > x10 AMU5

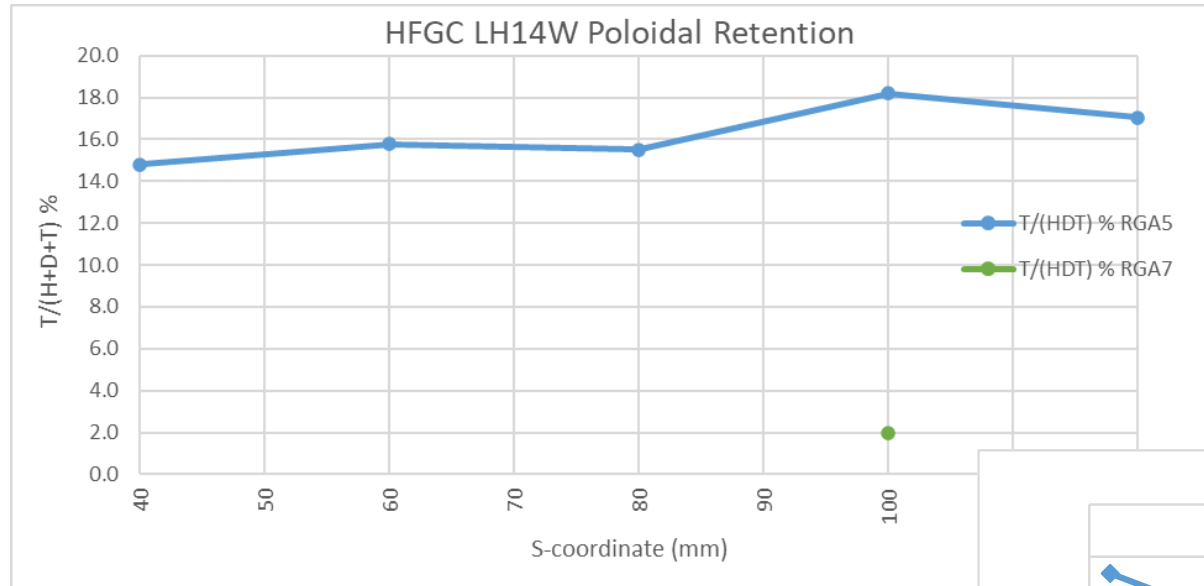
RGA5: AMU4 ~ x2 AMU5

Why the difference between RGA5 & RGA7
⇒ Issues with RGA5 data?

HFGC LH14W Toroidal Retention



T/(HDT) % for RGA5 and RGA7



Why the difference between RGA5 & RGA7
⇒ Issues with RGA5 data?

