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Reference Lithium Deposition on NSTX Plasma Facing Components by LITER-1 Evaporator

L.E. Zakharov, H.W. Kugel, A.L. Roquemore,
and C.H. Skinner

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Reference lithium deposition on NSTX plasma facing components by LITER-1 evaporator

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September 15, 2006

Abstract

The calculation by Cbebm code of lithium deposition from the LITER-1 lithium evaporator on the surface of the graphite tiles of NSTX during 2006 campaign is presented. The numerical model represents a collisionless gas model which assumes re-evaporation of the Li molecules after their collision with the wall. The data can serve as a reference Li deposition distribution, which would be established in a perfectly clean vacuum vessel.

For easy navigation the enumeration in the Table of Contents, and the "(to ToC)" right after the section names are the forward and backward hyperlinks between Table of Contents and the beginning of sections.

Contents

1 Introduction *(to ToC)*

In 2006, NSTX conducted several experiments with intense lithium deposition on its ATJ graphite plasma facing components from an evaporator "LITER-1"[1] situated in the upper part of the vacuum chamber. Although it had a noticeable positive effect on the plasma discharges following the evaporation, an expected high rate of pumping of plasma particles by the lithium coating was not observed. The interaction of the lithium coating, established gradually on the graphite plates during the evaporation, with residual oxygen, water vapor, carbon sputtered off the plates could be the potential causes of passivation of the lithium layer. Also consumption and redeposition of lithium by the plasma itself can affect the efficiency of plasma pumping by the lithium.

While special studies of graphite tile surfaces are under way, it is important to have a reference Li deposition distribution for an idealized situation, when only direct deposition from the evaporator is present. Upto the temperature of $\simeq 650^o$ C, the lithium vapor inside LITER-1 is collisionless. In this case the angular diagram of evaporation, calculated by Cbebm code, corresponds to the rare gas Knudsen model and does not depend on temperature of the evaporator. This makes calculations of the deposition rate relative to one of the quartz crystal microbalance deposition monitors[2] (named QMB-HL) relevant to the post-campaign analysis.

We illustrate here the 3-D model of plasma facing components of NSTX and provide the numerical data on relative (to QMB-HL monitor) lithium deposition on a set of coupons and test tiles. The numerical model of evaporator itself and the code developed (Cbebm) will be presented elsewhere.

2 Plasma facing components inside NSTX vacuum vessel *(to ToC)*

A fish eye photo picture of the interior of NSTX vacuum chamber is given in Fig.1.

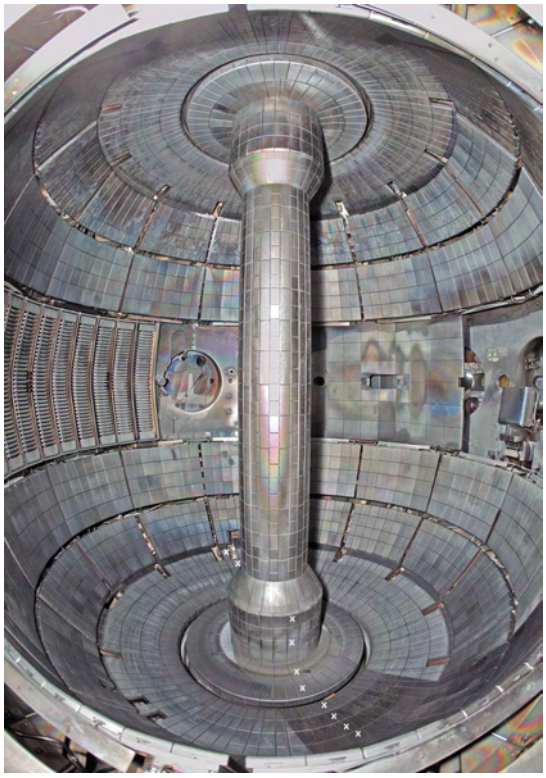
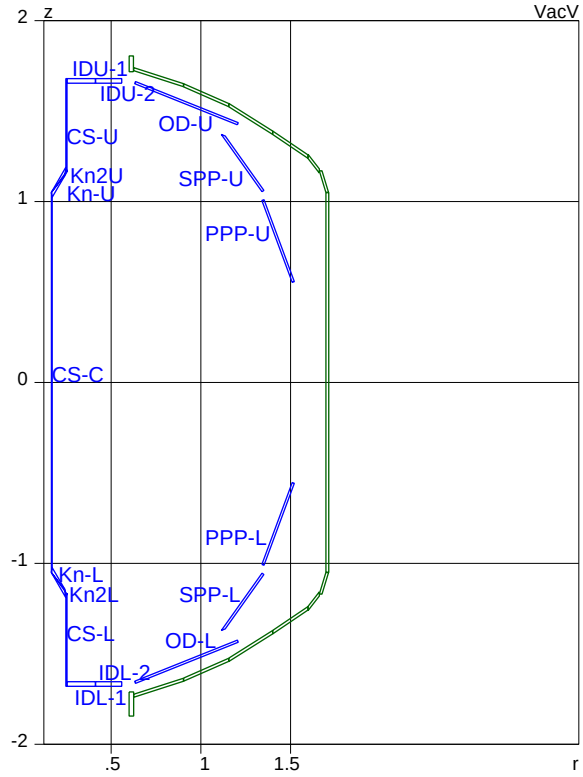


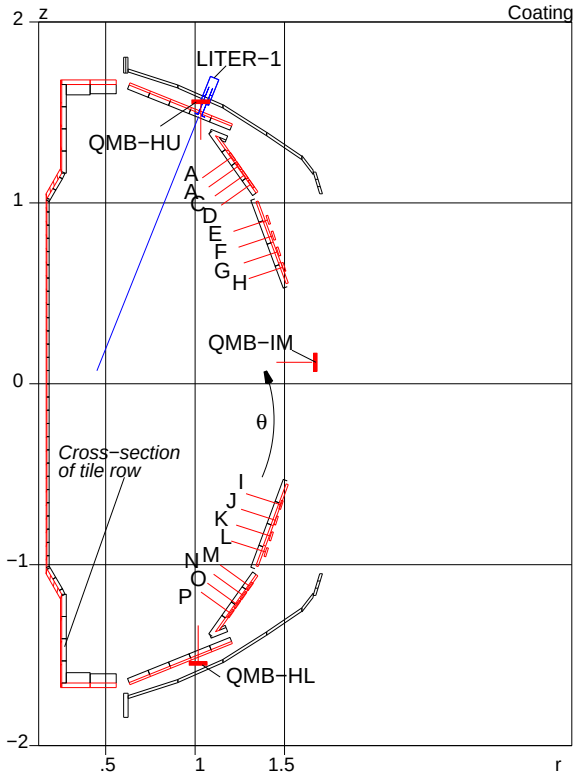
Fig.1 NSTX interior with graphite plasma facing components

The central stack, lower and upper divertor area have a continuous coverage by graphite tiles. On the sides the vacuum chamber there are 4 sets of stabilizing plates, each consisting from 12 sectors. The gaps between sectors (or Bays) are alphabetically labeled in a clockwise direction (when looking from the top) from 'A' to 'L'. White crosses in Fig.1 show some test tiles taken out for the surface analysis.

Note, that in calculations presented in this paper, the mathematical, counter clockwise direction of the azimuth φ is adopted with the origin $\varphi = 0$ at the middle of 'LA' sector.



Names of PFC elements (blue color)



Quartz MicroBalance monitors and Si witness coupons (A-P). Red lines are normal to active surfaces of monitors and coupons.

Fig.2

Fig.2 shows the poloidal cross-section of Plasma Facing Components (PFC) and the vacuum vessel together with the given names of the components, the names of Si witness coupons for collecting overall lithium deposition, and names of the Quartz MicroBalance monitors (QMB-**) used for recording the time history of deposition, where two letters in their names after '-' refer to the Bay label and position (Lower, Middle, and Upper). One of them, i.e. QMB-HL is used in calculations as the normalization signal.

Also, the cross-sections of the tile rows (black boxes on the top of red mounting plates) can be distinguished on the right side of Fig.2. In the Table 2 of Appendix the rows (within each multi-row PFC) are enumerated in the direction of the poloidal angle θ shown on Fig.2.

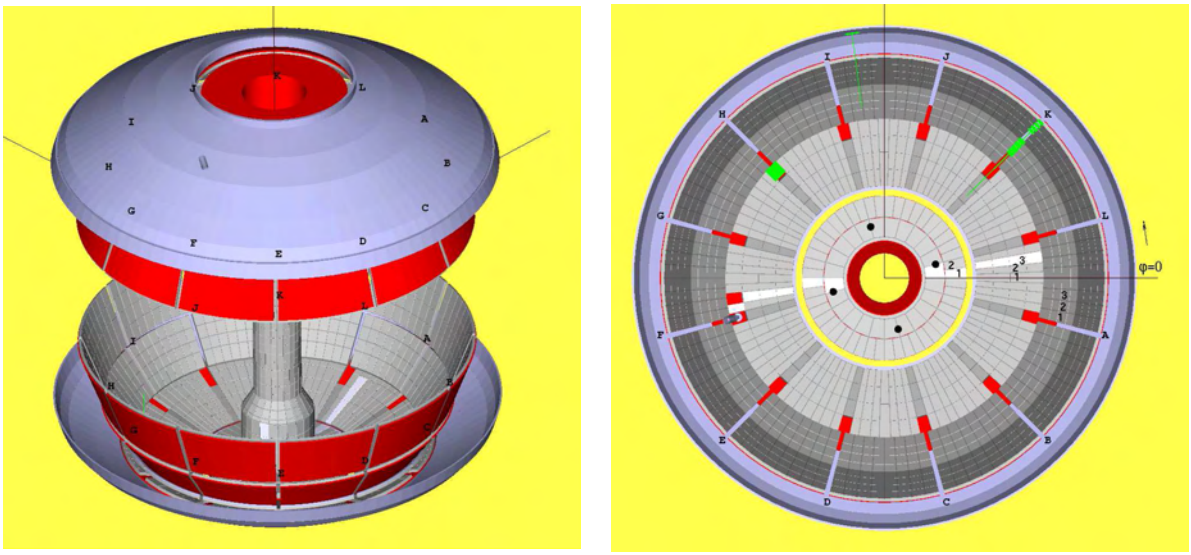


Fig.3. 3-D numerical model of NSTX PFCs for Bays A to L. Carbon tiles (gray), test tiles (looking white), and diagnostic viewport gaps (red) in the lower divertor of NSTX. The horizontal line is $\varphi = 0$ azimuth (between Bays A and L counted counter clockwise)

Fig.3 shows the numerical 3-D representation of the vacuum vessel and its ATJ graphite tiles. Shown in red at the lower outer divertor are the diagnostic viewports at each Bay. The light gray tiles are the locations at Bays F and L where tiles were removed after the end of the campaign for off-site surface analysis of lithium interaction with the graphite. The darker gray columns on the outer divertor tiles have been artificially distinguished to trace the gaps in the passive stabilizing plates associated with enumeration of Bays A-L.

Characteristic examples of enumeration of tiles in each row (used in the Appendix table 2) are shown on the right Fig.3. For passive plates (PPP-L,U, SPP-L,U) each sector has its local enumeration.

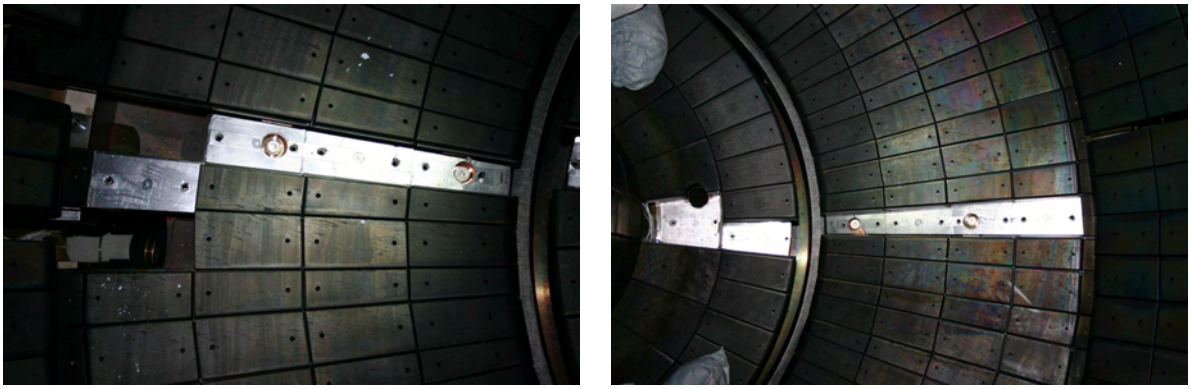


Fig.4. Photographs of the lower divertor at Bays F and L with the test tiles removed.

Fig.4 shows photographs of the Bay F and Bay L regions with the test tiles removed after the end of the campaign. The darker rectangles are the graphite tiles and the shiny metallic regions are the backing plates for the removed tiles.

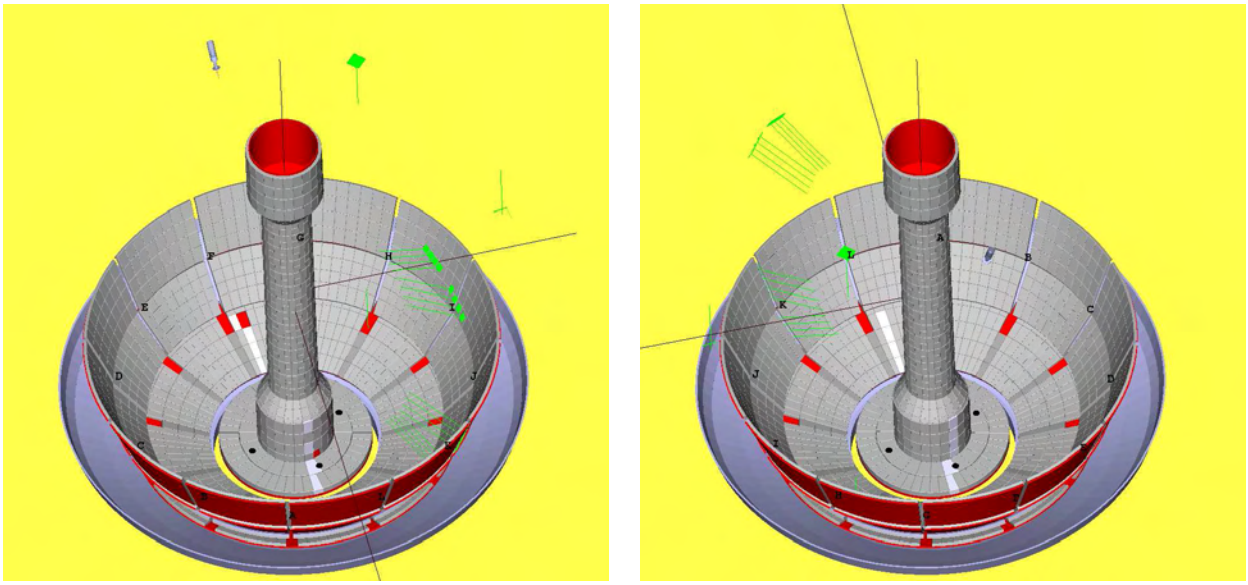


Fig.5 Test tiles at the bottom part of the central stack on numerical model

Fig.5 shows test tiles on the shadow (Bay-L) and front (Bay-F) sides of the lower part of the central stack and their numerical model.

Test tiles in vicinity of the lower Bay-L

Test tiles in vicinity of the lower Bay-F

Fig.6 Photo picture of the test tiles taken from the bottom part of the central stack.

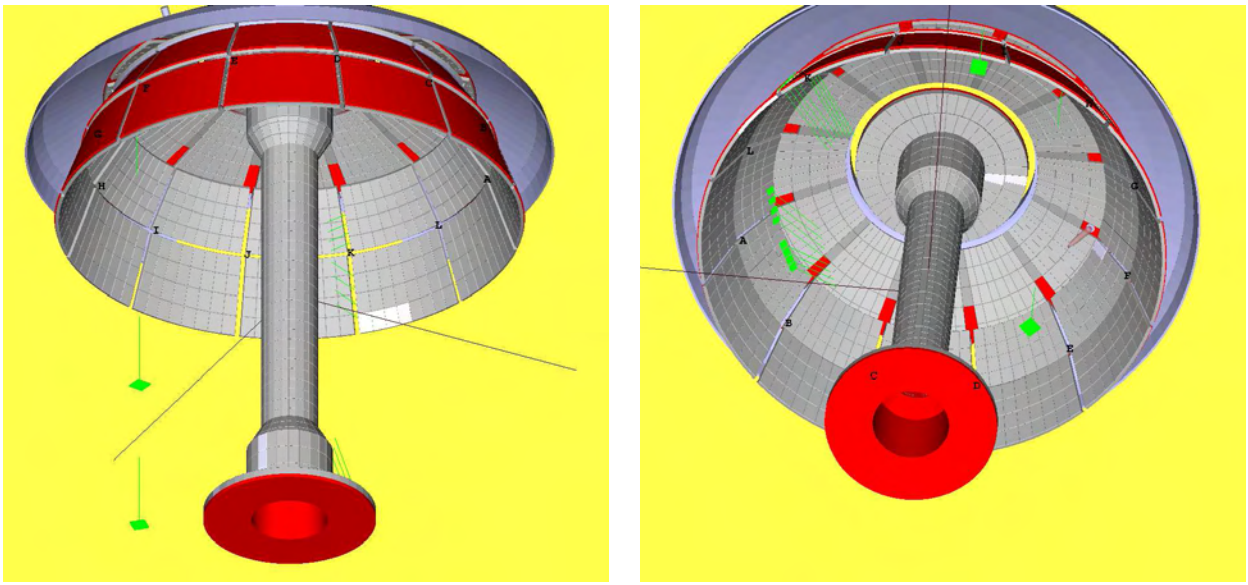
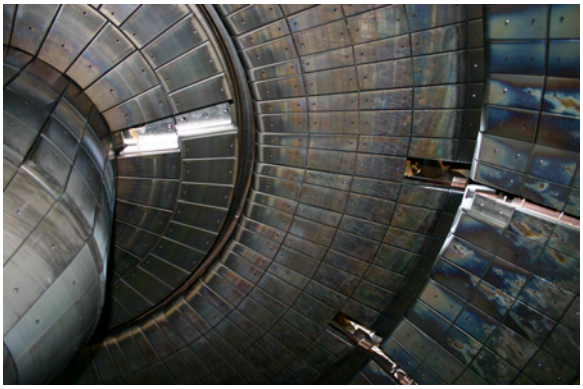


Fig.7. Test tiles in the upper part of the vacuum vessel

Fig.7 shows four test tiles on the upper passive stabilizing plates and two test tile on the upper inner divertor plates.

Test tiles in the K-L sector of the PPP-U plate



Two test tiles in the upper inner divertor region near Bay-F

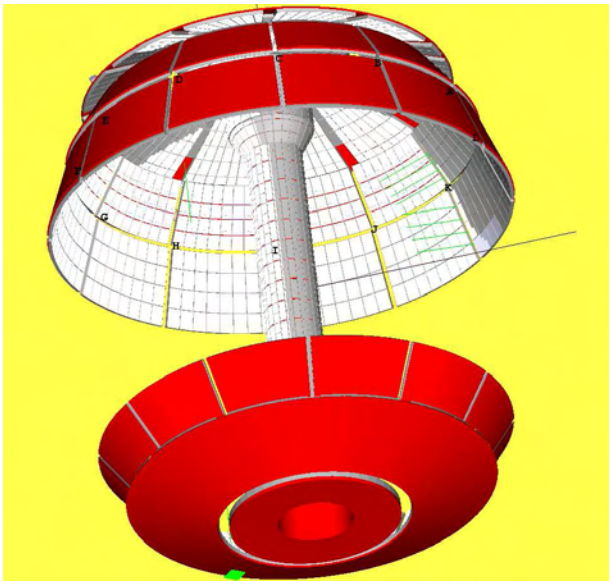
Fig.8 Photographs of test tiles in the upper part of NSTX PFC.

3 Shadow region on the PFC *(to ToC)*

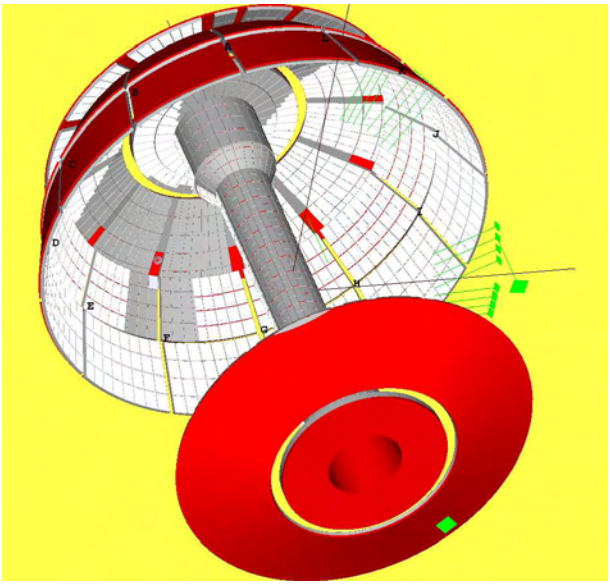
Fig.9 shows the shadow from LITER-1 lithium deposition. *The artificially darker gray columns of tiles on the outer divertor indicate the location of the different Bays, rather than representing a shadow.*

Four test tiles in the lowest row of the left picture (sector K-L) show the transition from the shadow to the exposed region and edge of the shadow.

In the right Fig.9, the front end of the evaporator (gray circle) is visible at the upper edge of the secondary stabilizing plate (Bay F).

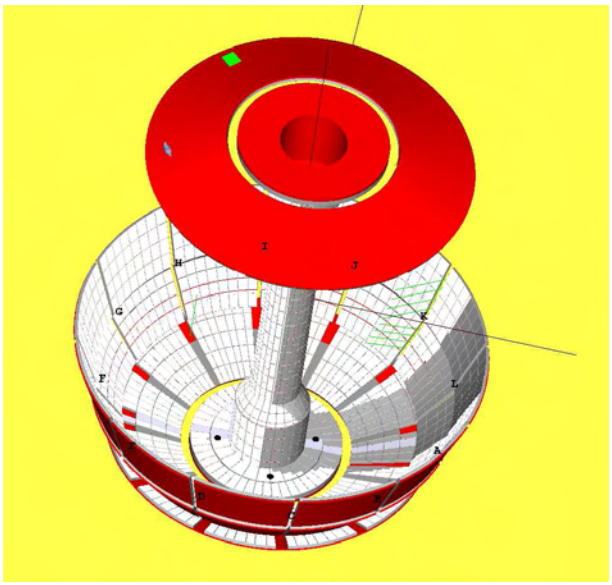


Shadow in the upper K-L sector opposite to LITER-1

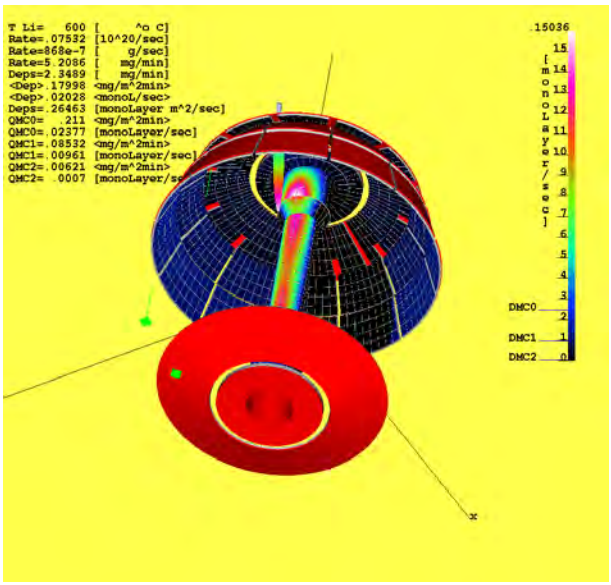


A blind zone near LITER-1 between upper E and H bays

Fig.9 Upper part of NSTX PFC with the Li shadowed regions in gray.



Shadow in the lower K-L in gray



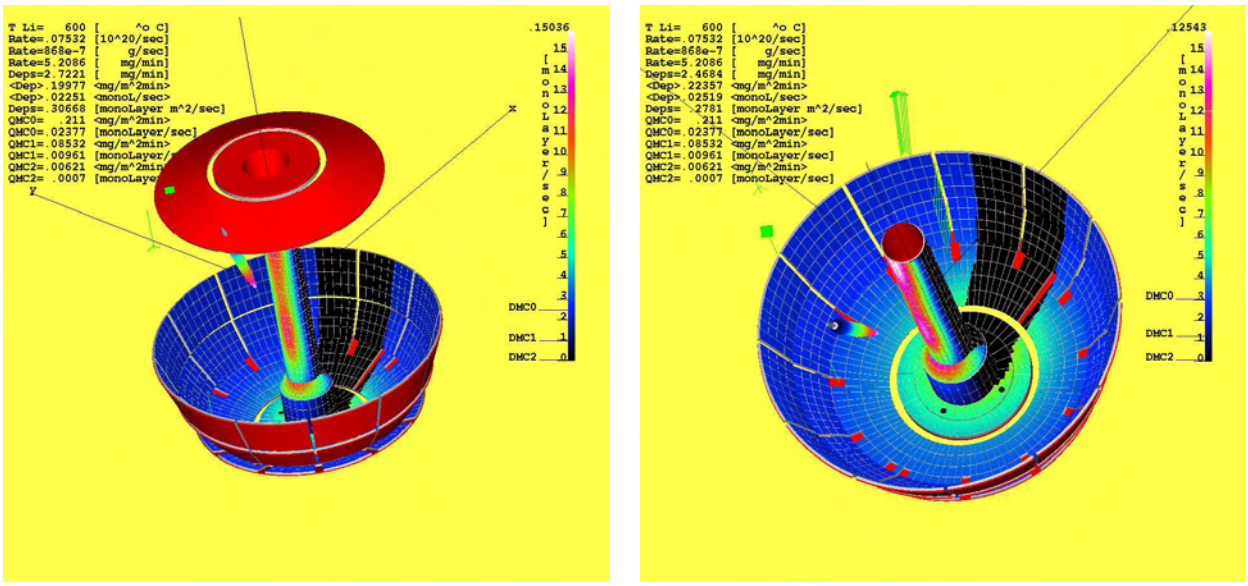
Deposition and the shadow in the upper part of NSTX

Fig.10. Left side shows the shadow in deposition in the lower part of the vacuum chamber. The right side shows the deposition intensity in the upper part of NSTX.

Fig.10 left side shows the lower part of the PFCs with the test tiles in the inner and outer lower divertor in vicinity of Bays L and F.

Fig.10, right side, displays the calculations of the absolute deposition rate of the 600^o hot LITER-1 to the upper PFCs shown on the figure. The color rule makes association between the color of the surfaces and the rate of deposition. The number at the top of the color rule corresponds to the maximum rate of deposition on the surface of the displayed PFCs.

Black color here is the shadow (zero rate of deposition).



Deposition rate for lower and upper PFCs

Deposition rate for reduced set of PFCs

Fig.11 Deposition and shadow in the lower K-A sectors.

Fig.11 displays the rate of deposition to the lower part of PFCs. In the right figure the range of the deposition rate scale is calculated based on reduced number of PFC elements in order to increase the contrast between different PFCs.

4 Numerical data for deposition monitors, coupons, and test tiles *(to ToC)*

The Table 1 of the Appendix list the numerical data on the absolute and relative deposition on the surface of crystal monitors and coupons with respect to the deposition flux Φ_0 to QMB-HL.

The entry `Name` is the name of the element (see Fig.2) In both tables `r,gf,z` correspond to cylindrical coordinates r, φ, z with φ counted in its mathematical (counter clockwise) direction with $\varphi = 0$ in the middle of sector 'AL'.

The column `Li/m^2sec` represents the Li particle flux for 600^o C temperature of LITER-1, while `gF/gF_0` is the the deposition flux Φ relative to its value Φ_0 on the QMB-HL crystal monitor.

In Table 2, the additional columns have the following meaning: `Sect` (non empty only for PPP-L,U SPP-L,U) gives the sector label, the columns `iT,iR` are the tile # in the row #, counted in the directions of φ (Fig.3) and θ (Fig.2) correspondingly.

Additionally, the surface of each test tile is subdivided by 4×4 elements labeled by indexes `it,ir`, there the first one is counted in the direction of φ and the second one in the direction of θ.

In Table 2 there is no data on the absolute deposition.

Acknowledgment

We wish to acknowledge the technical contributions of NSTX Engineering Staff J. Gething, S. Gifford, and J. Winston. This work is supported by U.S. Department of Energy Contract DE-AC02-76CH03073.

References

[1] H. W. Kugel *et al.*, Proceedings of 17th Int. Conf. on Plasma Surface Interactions, Heifei, China, May 22-26 , (2006).

[2] C. H. Skinner *et al.*, Proceedings of 17th Int. Conf. on Plasma Surface Interactions, Heifei, China, May 22-26 , (2006).

5 Appendix *(to ToC)*

Table 1

Deposition on QMB monitors and coupons relative to QMB-HL

#	Name	r[m]	z[m]	gf	T_Li=600^oC Li/(m^2sec)	gF/gF_0	
	gF_0	1.0168	-1.5361	134.76	3.051e+17	1.000e+00	- calibration rate
0	QMB-HL	1.0168	-1.5361	134.76	3.051e+17	1.000e+00	
1	QMB-IM	1.6654	0.1129	97.51	1.619e+17	5.306e-01	
2	QMB-HU	1.0317	1.5488	135.56	8.982e+15	2.944e-02	
3	A	1.2040	1.2526	44.76	1.087e+17	3.563e-01	
4	B	1.2395	1.2020	44.79	1.087e+17	3.561e-01	
5	C	1.2741	1.1526	44.82	1.084e+17	3.552e-01	
6	D	1.3096	1.1017	44.85	1.067e+17	3.498e-01	
7	E	1.4044	0.9048	44.97	1.357e+17	4.449e-01	
8	F	1.4331	0.8175	44.94	1.368e+17	4.483e-01	
9	G	1.4620	0.7298	44.91	1.370e+17	4.490e-01	
10	H	1.4902	0.6439	44.89	1.364e+17	4.471e-01	
11	I	1.4757	-0.6678	45.03	2.078e+17	6.811e-01	
12	J	1.4483	-0.7541	44.99	2.104e+17	6.897e-01	
13	K	1.4206	-0.8415	44.96	2.130e+17	6.980e-01	
14	L	1.3929	-0.9295	44.93	2.157e+17	7.070e-01	
15	M	1.3028	-1.1177	44.89	2.593e+17	8.500e-01	
16	N	1.2664	-1.1687	44.89	2.658e+17	8.713e-01	
17	O	1.2314	-1.2178	44.89	2.738e+17	8.975e-01	
18	P	1.1961	-1.2674	44.91	2.818e+17	9.237e-01	

Table 2

Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	AL	1	1	[1, 1]	0.2794	-1.1812	1.88	0.000e+00
CS-L	AL	1	1	[1, 2]	0.2794	-1.2106	1.88	0.000e+00
CS-L	AL	1	1	[1, 3]	0.2794	-1.2400	1.88	0.000e+00
CS-L	AL	1	1	[1, 4]	0.2794	-1.2693	1.88	0.000e+00
CS-L	AL	1	1	[2, 1]	0.2794	-1.1812	5.62	0.000e+00
CS-L	AL	1	1	[2, 2]	0.2794	-1.2106	5.62	0.000e+00
CS-L	AL	1	1	[2, 3]	0.2794	-1.2400	5.62	0.000e+00
CS-L	AL	1	1	[2, 4]	0.2794	-1.2693	5.62	0.000e+00
CS-L	AL	1	1	[3, 1]	0.2794	-1.1812	9.37	0.000e+00
CS-L	AL	1	1	[3, 2]	0.2794	-1.2106	9.37	0.000e+00
CS-L	AL	1	1	[3, 3]	0.2794	-1.2400	9.37	0.000e+00
CS-L	AL	1	1	[3, 4]	0.2794	-1.2693	9.37	0.000e+00
CS-L	AL	1	1	[4, 1]	0.2794	-1.1812	13.12	0.000e+00
CS-L	AL	1	1	[4, 2]	0.2794	-1.2106	13.12	0.000e+00
CS-L	AL	1	1	[4, 3]	0.2794	-1.2400	13.12	0.000e+00
CS-L	AL	1	1	[4, 4]	0.2794	-1.2693	13.12	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	AL	1	3	[1, 1]	0.2794	-1.4263	1.88	0.000e+00
CS-L	AL	1	3	[1, 2]	0.2794	-1.4557	1.88	0.000e+00
CS-L	AL	1	3	[1, 3]	0.2794	-1.4851	1.88	0.000e+00
CS-L	AL	1	3	[1, 4]	0.2794	-1.5144	1.88	0.000e+00
CS-L	AL	1	3	[2, 1]	0.2794	-1.4263	5.62	0.000e+00
CS-L	AL	1	3	[2, 2]	0.2794	-1.4557	5.62	0.000e+00
CS-L	AL	1	3	[2, 3]	0.2794	-1.4851	5.62	0.000e+00
CS-L	AL	1	3	[2, 4]	0.2794	-1.5144	5.62	0.000e+00
CS-L	AL	1	3	[3, 1]	0.2794	-1.4263	9.37	0.000e+00
CS-L	AL	1	3	[3, 2]	0.2794	-1.4557	9.37	0.000e+00
CS-L	AL	1	3	[3, 3]	0.2794	-1.4851	9.37	0.000e+00
CS-L	AL	1	3	[3, 4]	0.2794	-1.5144	9.37	0.000e+00
CS-L	AL	1	3	[4, 1]	0.2794	-1.4263	13.12	0.000e+00
CS-L	AL	1	3	[4, 2]	0.2794	-1.4557	13.12	0.000e+00
CS-L	AL	1	3	[4, 3]	0.2794	-1.4851	13.12	0.000e+00
CS-L	AL	1	3	[4, 4]	0.2794	-1.5144	13.12	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	FE	14	1	[1, 1]	0.2794	-1.1812	196.88	1.010e+00
CS-L	FE	14	1	[1, 2]	0.2794	-1.2106	196.88	9.570e-01
CS-L	FE	14	1	[1, 3]	0.2794	-1.2400	196.88	9.072e-01
CS-L	FE	14	1	[1, 4]	0.2794	-1.2693	196.88	8.605e-01
CS-L	FE	14	1	[2, 1]	0.2794	-1.1812	200.63	1.004e+00
CS-L	FE	14	1	[2, 2]	0.2794	-1.2106	200.63	9.513e-01
CS-L	FE	14	1	[2, 3]	0.2794	-1.2400	200.63	9.018e-01
CS-L	FE	14	1	[2, 4]	0.2794	-1.2693	200.63	8.555e-01
CS-L	FE	14	1	[3, 1]	0.2794	-1.1812	204.38	9.911e-01
CS-L	FE	14	1	[3, 2]	0.2794	-1.2106	204.38	9.397e-01
CS-L	FE	14	1	[3, 3]	0.2794	-1.2400	204.38	8.911e-01
CS-L	FE	14	1	[3, 4]	0.2794	-1.2693	204.38	8.455e-01
CS-L	FE	14	1	[4, 1]	0.2794	-1.1812	208.13	9.726e-01
CS-L	FE	14	1	[4, 2]	0.2794	-1.2106	208.13	9.225e-01
CS-L	FE	14	1	[4, 3]	0.2794	-1.2400	208.13	8.751e-01
CS-L	FE	14	1	[4, 4]	0.2794	-1.2693	208.13	8.306e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	FE	14	2	[1, 1]	0.2794	-1.3038	196.88	8.098e-01
CS-L	FE	14	2	[1, 2]	0.2794	-1.3331	196.88	7.703e-01
CS-L	FE	14	2	[1, 3]	0.2794	-1.3625	196.88	7.338e-01
CS-L	FE	14	2	[1, 4]	0.2794	-1.3919	196.88	7.001e-01
CS-L	FE	14	2	[2, 1]	0.2794	-1.3038	200.63	8.052e-01
CS-L	FE	14	2	[2, 2]	0.2794	-1.3331	200.63	7.659e-01
CS-L	FE	14	2	[2, 3]	0.2794	-1.3625	200.63	7.297e-01
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CS-L	FE	14	2	[3, 1]	0.2794	-1.3038	204.38	7.960e-01
CS-L	FE	14	2	[3, 2]	0.2794	-1.3331	204.38	7.572e-01
CS-L	FE	14	2	[3, 3]	0.2794	-1.3625	204.38	7.214e-01
CS-L	FE	14	2	[3, 4]	0.2794	-1.3919	204.38	6.884e-01
CS-L	FE	14	2	[4, 1]	0.2794	-1.3038	208.13	7.821e-01
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CS-L	FE	14	2	[4, 3]	0.2794	-1.3625	208.13	7.091e-01
CS-L	FE	14	2	[4, 4]	0.2794	-1.3919	208.13	6.767e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	FE	14	3	[1, 1]	0.2794	-1.4263	196.88	6.637e-01
CS-L	FE	14	3	[1, 2]	0.2794	-1.4557	196.88	6.350e-01
CS-L	FE	14	3	[1, 3]	0.2794	-1.4851	196.88	6.083e-01
CS-L	FE	14	3	[1, 4]	0.2794	-1.5144	196.88	5.833e-01
CS-L	FE	14	3	[2, 1]	0.2794	-1.4263	200.63	6.600e-01
CS-L	FE	14	3	[2, 2]	0.2794	-1.4557	200.63	6.315e-01
CS-L	FE	14	3	[2, 3]	0.2794	-1.4851	200.63	6.049e-01
CS-L	FE	14	3	[2, 4]	0.2794	-1.5144	200.63	5.801e-01
CS-L	FE	14	3	[3, 1]	0.2794	-1.4263	204.38	6.526e-01
CS-L	FE	14	3	[3, 2]	0.2794	-1.4557	204.38	6.245e-01
CS-L	FE	14	3	[3, 3]	0.2794	-1.4851	204.38	5.982e-01
CS-L	FE	14	3	[3, 4]	0.2794	-1.5144	204.38	5.736e-01
CS-L	FE	14	3	[4, 1]	0.2794	-1.4263	208.13	6.416e-01
CS-L	FE	14	3	[4, 2]	0.2794	-1.4557	208.13	6.140e-01
CS-L	FE	14	3	[4, 3]	0.2794	-1.4851	208.13	5.882e-01
CS-L	FE	14	3	[4, 4]	0.2794	-1.5144	208.13	5.641e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
CS-L	FE	14	4	[1, 1]	0.2794	-1.5489	196.88	5.559e-01
CS-L	FE	14	4	[1, 2]	0.2794	-1.5782	196.88	5.340e-01
CS-L	FE	14	4	[1, 3]	0.2794	-1.6076	196.88	5.134e-01
CS-L	FE	14	4	[1, 4]	0.2794	-1.6370	196.88	4.938e-01
CS-L	FE	14	4	[2, 1]	0.2794	-1.5489	200.63	5.528e-01
CS-L	FE	14	4	[2, 2]	0.2794	-1.5782	200.63	5.311e-01
CS-L	FE	14	4	[2, 3]	0.2794	-1.6076	200.63	5.106e-01
CS-L	FE	14	4	[2, 4]	0.2794	-1.6370	200.63	4.911e-01
CS-L	FE	14	4	[3, 1]	0.2794	-1.5489	204.38	5.468e-01
CS-L	FE	14	4	[3, 2]	0.2794	-1.5782	204.38	5.253e-01
CS-L	FE	14	4	[3, 3]	0.2794	-1.6076	204.38	5.050e-01
CS-L	FE	14	4	[3, 4]	0.2794	-1.6370	204.38	4.858e-01
CS-L	FE	14	4	[4, 1]	0.2794	-1.5489	208.13	5.376e-01
CS-L	FE	14	4	[4, 2]	0.2794	-1.5782	208.13	5.166e-01
CS-L	FE	14	4	[4, 3]	0.2794	-1.6076	208.13	4.966e-01
CS-L	FE	14	4	[4, 4]	0.2794	-1.6370	208.13	4.778e-01

Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDU-1	GF	17	1	[1, 1]	0.3942	1.5970	181.41	3.253e-01
IDU-1	GF	17	1	[1, 2]	0.3621	1.5970	181.41	3.044e-01
IDU-1	GF	17	1	[1, 3]	0.3301	1.5970	181.41	2.824e-01
IDU-1	GF	17	1	[1, 4]	0.2980	1.5970	181.41	2.547e-01
IDU-1	GF	17	1	[2, 1]	0.3942	1.5970	184.22	3.345e-01
IDU-1	GF	17	1	[2, 2]	0.3621	1.5970	184.22	3.111e-01
IDU-1	GF	17	1	[2, 3]	0.3301	1.5970	184.22	2.879e-01
IDU-1	GF	17	1	[2, 4]	0.2980	1.5970	184.22	2.589e-01
IDU-1	GF	17	1	[3, 1]	0.3942	1.5970	187.03	3.419e-01
IDU-1	GF	17	1	[3, 2]	0.3621	1.5970	187.03	3.165e-01
IDU-1	GF	17	1	[3, 3]	0.3301	1.5970	187.03	2.924e-01
IDU-1	GF	17	1	[3, 4]	0.2980	1.5970	187.03	2.622e-01
IDU-1	GF	17	1	[4, 1]	0.3942	1.5970	189.84	3.474e-01
IDU-1	GF	17	1	[4, 2]	0.3621	1.5970	189.84	3.204e-01
IDU-1	GF	17	1	[4, 3]	0.3301	1.5970	189.84	2.955e-01
IDU-1	GF	17	1	[4, 4]	0.2980	1.5970	189.84	2.646e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDU-2	GF	25	1	[1, 1]	0.5388	1.6034	180.94	0.000e+00
IDU-2	GF	25	1	[1, 2]	0.5035	1.6034	180.94	4.195e-01
IDU-2	GF	25	1	[1, 3]	0.4683	1.6034	180.94	3.956e-01
IDU-2	GF	25	1	[1, 4]	0.4330	1.6034	180.94	3.650e-01
IDU-2	GF	25	1	[2, 1]	0.5388	1.6034	182.81	0.000e+00
IDU-2	GF	25	1	[2, 2]	0.5035	1.6034	182.81	4.334e-01
IDU-2	GF	25	1	[2, 3]	0.4683	1.6034	182.81	4.069e-01
IDU-2	GF	25	1	[2, 4]	0.4330	1.6034	182.81	3.732e-01
IDU-2	GF	25	1	[3, 1]	0.5388	1.6034	184.69	0.000e+00
IDU-2	GF	25	1	[3, 2]	0.5035	1.6034	184.69	4.461e-01
IDU-2	GF	25	1	[3, 3]	0.4683	1.6034	184.69	4.171e-01
IDU-2	GF	25	1	[3, 4]	0.4330	1.6034	184.69	3.806e-01
IDU-2	GF	25	1	[4, 1]	0.5388	1.6034	186.56	0.000e+00
IDU-2	GF	25	1	[4, 2]	0.5035	1.6034	186.56	4.573e-01
IDU-2	GF	25	1	[4, 3]	0.4683	1.6034	186.56	4.260e-01
IDU-2	GF	25	1	[4, 4]	0.4330	1.6034	186.56	3.870e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDL-2	AL	1	1	[1, 1]	0.4330	-1.6034	0.94	0.000e+00
IDL-2	AL	1	1	[1, 2]	0.4683	-1.6034	0.94	0.000e+00
IDL-2	AL	1	1	[1, 3]	0.5035	-1.6034	0.94	0.000e+00
IDL-2	AL	1	1	[1, 4]	0.5388	-1.6034	0.94	0.000e+00
IDL-2	AL	1	1	[2, 1]	0.4330	-1.6034	2.81	0.000e+00
IDL-2	AL	1	1	[2, 2]	0.4683	-1.6034	2.81	0.000e+00
IDL-2	AL	1	1	[2, 3]	0.5035	-1.6034	2.81	0.000e+00
IDL-2	AL	1	1	[2, 4]	0.5388	-1.6034	2.81	0.000e+00
IDL-2	AL	1	1	[3, 1]	0.4330	-1.6034	4.69	0.000e+00
IDL-2	AL	1	1	[3, 2]	0.4683	-1.6034	4.69	0.000e+00
IDL-2	AL	1	1	[3, 3]	0.5035	-1.6034	4.69	0.000e+00
IDL-2	AL	1	1	[3, 4]	0.5388	-1.6034	4.69	0.000e+00
IDL-2	AL	1	1	[4, 1]	0.4330	-1.6034	6.56	0.000e+00
IDL-2	AL	1	1	[4, 2]	0.4683	-1.6034	6.56	0.000e+00
IDL-2	AL	1	1	[4, 3]	0.5035	-1.6034	6.56	0.000e+00
IDL-2	AL	1	1	[4, 4]	0.5388	-1.6034	6.56	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDL-2	GF	25	1	[1, 1]	0.4330	-1.6034	180.94	1.744e+00
IDL-2	GF	25	1	[1, 2]	0.4683	-1.6034	180.94	1.675e+00
IDL-2	GF	25	1	[1, 3]	0.5035	-1.6034	180.94	1.613e+00
IDL-2	GF	25	1	[1, 4]	0.5388	-1.6034	180.94	1.554e+00
IDL-2	GF	25	1	[2, 1]	0.4330	-1.6034	182.81	1.743e+00
IDL-2	GF	25	1	[2, 2]	0.4683	-1.6034	182.81	1.675e+00
IDL-2	GF	25	1	[2, 3]	0.5035	-1.6034	182.81	1.613e+00
IDL-2	GF	25	1	[2, 4]	0.5388	-1.6034	182.81	1.554e+00
IDL-2	GF	25	1	[3, 1]	0.4330	-1.6034	184.69	1.743e+00
IDL-2	GF	25	1	[3, 2]	0.4683	-1.6034	184.69	1.675e+00
IDL-2	GF	25	1	[3, 3]	0.5035	-1.6034	184.69	1.613e+00
IDL-2	GF	25	1	[3, 4]	0.5388	-1.6034	184.69	1.555e+00
IDL-2	GF	25	1	[4, 1]	0.4330	-1.6034	186.56	1.743e+00
IDL-2	GF	25	1	[4, 2]	0.4683	-1.6034	186.56	1.675e+00
IDL-2	GF	25	1	[4, 3]	0.5035	-1.6034	186.56	1.613e+00
IDL-2	GF	25	1	[4, 4]	0.5388	-1.6034	186.56	1.555e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDL-1	AL	1	1	[1, 1]	0.2980	-1.5970	1.88	0.000e+00
IDL-1	AL	1	1	[1, 2]	0.3301	-1.5970	1.88	0.000e+00
IDL-1	AL	1	1	[1, 3]	0.3621	-1.5970	1.88	0.000e+00
IDL-1	AL	1	1	[1, 4]	0.3942	-1.5970	1.88	0.000e+00
IDL-1	AL	1	1	[2, 1]	0.2980	-1.5970	5.62	0.000e+00
IDL-1	AL	1	1	[2, 2]	0.3301	-1.5970	5.62	0.000e+00
IDL-1	AL	1	1	[2, 3]	0.3621	-1.5970	5.62	0.000e+00
IDL-1	AL	1	1	[2, 4]	0.3942	-1.5970	5.62	0.000e+00
IDL-1	AL	1	1	[3, 1]	0.2980	-1.5970	9.37	0.000e+00
IDL-1	AL	1	1	[3, 2]	0.3301	-1.5970	9.37	0.000e+00
IDL-1	AL	1	1	[3, 3]	0.3621	-1.5970	9.37	0.000e+00
IDL-1	AL	1	1	[3, 4]	0.3942	-1.5970	9.37	0.000e+00
IDL-1	AL	1	1	[4, 1]	0.2980	-1.5970	13.12	0.000e+00
IDL-1	AL	1	1	[4, 2]	0.3301	-1.5970	13.12	0.000e+00
IDL-1	AL	1	1	[4, 3]	0.3621	-1.5970	13.12	0.000e+00
IDL-1	AL	1	1	[4, 4]	0.3942	-1.5970	13.12	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
IDL-1	GF	13	1	[1, 1]	0.2980	-1.5970	181.88	2.096e+00
IDL-1	GF	13	1	[1, 2]	0.3301	-1.5970	181.88	2.001e+00
IDL-1	GF	13	1	[1, 3]	0.3621	-1.5970	181.88	1.915e+00
IDL-1	GF	13	1	[1, 4]	0.3942	-1.5970	181.88	1.837e+00
IDL-1	GF	13	1	[2, 1]	0.2980	-1.5970	185.63	2.094e+00
IDL-1	GF	13	1	[2, 2]	0.3301	-1.5970	185.63	1.999e+00
IDL-1	GF	13	1	[2, 3]	0.3621	-1.5970	185.63	1.913e+00
IDL-1	GF	13	1	[2, 4]	0.3942	-1.5970	185.63	1.836e+00
IDL-1	GF	13	1	[3, 1]	0.2980	-1.5970	189.38	2.092e+00
IDL-1	GF	13	1	[3, 2]	0.3301	-1.5970	189.38	1.997e+00
IDL-1	GF	13	1	[3, 3]	0.3621	-1.5970	189.38	1.912e+00
IDL-1	GF	13	1	[3, 4]	0.3942	-1.5970	189.38	1.835e+00
IDL-1	GF	13	1	[4, 1]	0.2980	-1.5970	193.12	2.091e+00
IDL-1	GF	13	1	[4, 2]	0.3301	-1.5970	193.12	1.997e+00
IDL-1	GF	13	1	[4, 3]	0.3621	-1.5970	193.12	1.912e+00
IDL-1	GF	13	1	[4, 4]	0.3942	-1.5970	193.12	1.834e+00

Table 2, continuation

Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
SPP-U	FE	1	4	[1, 1]	1.1393	1.2947	196.11	0.000e+00
SPP-U	FE	1	4	[1, 2]	1.1218	1.3191	196.11	0.000e+00
SPP-U	FE	1	4	[1, 3]	1.1043	1.3436	196.11	0.000e+00
SPP-U	FE	1	4	[1, 4]	1.0868	1.3680	196.11	0.000e+00
SPP-U	FE	1	4	[2, 1]	1.1393	1.2947	197.01	0.000e+00
SPP-U	FE	1	4	[2, 2]	1.1218	1.3191	197.01	0.000e+00
SPP-U	FE	1	4	[2, 3]	1.1043	1.3436	197.01	0.000e+00
SPP-U	FE	1	4	[2, 4]	1.0868	1.3680	197.01	0.000e+00
SPP-U	FE	1	4	[3, 1]	1.1393	1.2947	197.90	0.000e+00
SPP-U	FE	1	4	[3, 2]	1.1218	1.3191	197.90	0.000e+00
SPP-U	FE	1	4	[3, 3]	1.1043	1.3436	197.90	0.000e+00
SPP-U	FE	1	4	[3, 4]	1.0868	1.3680	197.90	0.000e+00
SPP-U	FE	1	4	[4, 1]	1.1393	1.2947	198.80	0.000e+00
SPP-U	FE	1	4	[4, 2]	1.1218	1.3191	198.80	0.000e+00
SPP-U	FE	1	4	[4, 3]	1.1043	1.3436	198.80	0.000e+00
SPP-U	FE	1	4	[4, 4]	1.0868	1.3680	198.80	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
PPP-U	LK	5	1	[1, 1]	1.4865	0.5454	30.45	0.000e+00
PPP-U	LK	5	1	[1, 2]	1.4756	0.5746	30.45	0.000e+00
PPP-U	LK	5	1	[1, 3]	1.4647	0.6037	30.45	0.000e+00
PPP-U	LK	5	1	[1, 4]	1.4538	0.6329	30.45	0.000e+00
PPP-U	LK	5	1	[2, 1]	1.4865	0.5454	31.34	0.000e+00
PPP-U	LK	5	1	[2, 2]	1.4756	0.5746	31.34	0.000e+00
PPP-U	LK	5	1	[2, 3]	1.4647	0.6037	31.34	0.000e+00
PPP-U	LK	5	1	[2, 4]	1.4538	0.6329	31.34	0.000e+00
PPP-U	LK	5	1	[3, 1]	1.4865	0.5454	32.24	0.000e+00
PPP-U	LK	5	1	[3, 2]	1.4756	0.5746	32.24	0.000e+00
PPP-U	LK	5	1	[3, 3]	1.4647	0.6037	32.24	0.000e+00
PPP-U	LK	5	1	[3, 4]	1.4538	0.6329	32.24	0.000e+00
PPP-U	LK	5	1	[4, 1]	1.4865	0.5454	33.14	0.000e+00
PPP-U	LK	5	1	[4, 2]	1.4756	0.5746	33.14	0.000e+00
PPP-U	LK	5	1	[4, 3]	1.4647	0.6037	33.14	0.000e+00
PPP-U	LK	5	1	[4, 4]	1.4538	0.6329	33.14	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
PPP-U	LK	6	1	[1, 1]	1.4865	0.5454	34.03	0.000e+00
PPP-U	LK	6	1	[1, 2]	1.4756	0.5746	34.03	0.000e+00
PPP-U	LK	6	1	[1, 3]	1.4647	0.6037	34.03	0.000e+00
PPP-U	LK	6	1	[1, 4]	1.4538	0.6329	34.03	0.000e+00
PPP-U	LK	6	1	[2, 1]	1.4865	0.5454	34.93	0.000e+00
PPP-U	LK	6	1	[2, 2]	1.4756	0.5746	34.93	0.000e+00
PPP-U	LK	6	1	[2, 3]	1.4647	0.6037	34.93	0.000e+00
PPP-U	LK	6	1	[2, 4]	1.4538	0.6329	34.93	0.000e+00
PPP-U	LK	6	1	[3, 1]	1.4865	0.5454	35.83	0.000e+00
PPP-U	LK	6	1	[3, 2]	1.4756	0.5746	35.83	0.000e+00
PPP-U	LK	6	1	[3, 3]	1.4647	0.6037	35.83	0.000e+00
PPP-U	LK	6	1	[3, 4]	1.4538	0.6329	35.83	0.000e+00
PPP-U	LK	6	1	[4, 1]	1.4865	0.5454	36.72	0.000e+00
PPP-U	LK	6	1	[4, 2]	1.4756	0.5746	36.72	0.000e+00
PPP-U	LK	6	1	[4, 3]	1.4647	0.6037	36.72	0.000e+00
PPP-U	LK	6	1	[4, 4]	1.4538	0.6329	36.72	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
PPP-U	LK	7	1	[1, 1]	1.4865	0.5454	37.62	0.000e+00
PPP-U	LK	7	1	[1, 2]	1.4756	0.5746	37.62	0.000e+00
PPP-U	LK	7	1	[1, 3]	1.4647	0.6037	37.62	0.000e+00
PPP-U	LK	7	1	[1, 4]	1.4538	0.6329	37.62	0.000e+00
PPP-U	LK	7	1	[2, 1]	1.4865	0.5454	38.51	0.000e+00
PPP-U	LK	7	1	[2, 2]	1.4756	0.5746	38.51	0.000e+00
PPP-U	LK	7	1	[2, 3]	1.4647	0.6037	38.51	0.000e+00
PPP-U	LK	7	1	[2, 4]	1.4538	0.6329	38.51	0.000e+00
PPP-U	LK	7	1	[3, 1]	1.4865	0.5454	39.41	4.384e-01
PPP-U	LK	7	1	[3, 2]	1.4756	0.5746	39.41	4.409e-01
PPP-U	LK	7	1	[3, 3]	1.4647	0.6037	39.41	0.000e+00
PPP-U	LK	7	1	[3, 4]	1.4538	0.6329	39.41	0.000e+00
PPP-U	LK	7	1	[4, 1]	1.4865	0.5454	40.31	4.383e-01
PPP-U	LK	7	1	[4, 2]	1.4756	0.5746	40.31	4.409e-01
PPP-U	LK	7	1	[4, 3]	1.4647	0.6037	40.31	4.457e-01
PPP-U	LK	7	1	[4, 4]	1.4538	0.6329	40.31	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
PPP-U	LK	8	1	[1, 1]	1.4865	0.5454	41.20	4.382e-01
PPP-U	LK	8	1	[1, 2]	1.4756	0.5746	41.20	4.411e-01
PPP-U	LK	8	1	[1, 3]	1.4647	0.6037	41.20	4.459e-01
PPP-U	LK	8	1	[1, 4]	1.4538	0.6329	41.20	4.494e-01
PPP-U	LK	8	1	[2, 1]	1.4865	0.5454	42.10	4.381e-01
PPP-U	LK	8	1	[2, 2]	1.4756	0.5746	42.10	4.412e-01
PPP-U	LK	8	1	[2, 3]	1.4647	0.6037	42.10	4.461e-01
PPP-U	LK	8	1	[2, 4]	1.4538	0.6329	42.10	4.494e-01
PPP-U	LK	8	1	[3, 1]	1.4865	0.5454	42.99	4.381e-01
PPP-U	LK	8	1	[3, 2]	1.4756	0.5746	42.99	4.413e-01
PPP-U	LK	8	1	[3, 3]	1.4647	0.6037	42.99	4.463e-01
PPP-U	LK	8	1	[3, 4]	1.4538	0.6329	42.99	4.495e-01
PPP-U	LK	8	1	[4, 1]	1.4865	0.5454	43.89	4.380e-01
PPP-U	LK	8	1	[4, 2]	1.4756	0.5746	43.89	4.415e-01
PPP-U	LK	8	1	[4, 3]	1.4647	0.6037	43.89	4.465e-01
PPP-U	LK	8	1	[4, 4]	1.4538	0.6329	43.89	4.495e-01
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	AL	3	1	[1, 1]	0.6383	-1.6230	6.55	0.000e+00
OD-L	AL	3	1	[1, 2]	0.6657	-1.6121	6.55	0.000e+00
OD-L	AL	3	1	[1, 3]	0.6932	-1.6012	6.55	0.000e+00
OD-L	AL	3	1	[1, 4]	0.7206	-1.5903	6.55	0.000e+00
OD-L	AL	3	1	[2, 1]	0.6383	-1.6230	7.49	0.000e+00
OD-L	AL	3	1	[2, 2]	0.6657	-1.6121	7.49	0.000e+00
OD-L	AL	3	1	[2, 3]	0.6932	-1.6012	7.49	0.000e+00
OD-L	AL	3	1	[2, 4]	0.7206	-1.5903	7.49	0.000e+00
OD-L	AL	3	1	[3, 1]	0.6383	-1.6230	8.42	0.000e+00
OD-L	AL	3	1	[3, 2]	0.6657	-1.6121	8.42	0.000e+00
OD-L	AL	3	1	[3, 3]	0.6932	-1.6012	8.42	0.000e+00
OD-L	AL	3	1	[3, 4]	0.7206	-1.5903	8.42	0.000e+00
OD-L	AL	3	1	[4, 1]	0.6383	-1.6230	9.36	0.000e+00
OD-L	AL	3	1	[4, 2]	0.6657	-1.6121	9.36	0.000e+00
OD-L	AL	3	1	[4, 3]	0.6932	-1.6012	9.36	0.000e+00
OD-L	AL	3	1	[4, 4]	0.7206	-1.5903	9.36	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	AL	3	2	[1, 1]	0.7528	-1.5775	6.55	0.000e+00
OD-L	AL	3	2	[1, 2]	0.7803	-1.5666	6.55	0.000e+00
OD-L	AL	3	2	[1, 3]	0.8077	-1.5557	6.55	0.000e+00
OD-L	AL	3	2	[1, 4]	0.8352	-1.5448	6.55	0.000e+00
OD-L	AL	3	2	[2, 1]	0.7528	-1.5775	7.49	0.000e+00
OD-L	AL	3	2	[2, 2]	0.7803	-1.5666	7.49	0.000e+00
OD-L	AL	3	2	[2, 3]	0.8077	-1.5557	7.49	0.000e+00
OD-L	AL	3	2	[2, 4]	0.8352	-1.5448	7.49	0.000e+00
OD-L	AL	3	2	[3, 1]	0.7528	-1.5775	8.42	0.000e+00
OD-L	AL	3	2	[3, 2]	0.7803	-1.5666	8.42	0.000e+00
OD-L	AL	3	2	[3, 3]	0.8077	-1.5557	8.42	0.000e+00
OD-L	AL	3	2	[3, 4]	0.8352	-1.5448	8.42	0.000e+00
OD-L	AL	3	2	[4, 1]	0.7528	-1.5775	9.36	0.000e+00
OD-L	AL	3	2	[4, 2]	0.7803	-1.5666	9.36	0.000e+00
OD-L	AL	3	2	[4, 3]	0.8077	-1.5557	9.36	0.000e+00
OD-L	AL	3	2	[4, 4]	0.8352	-1.5448	9.36	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	AL	3	3	[1, 1]	0.8674	-1.5321	6.55	0.000e+00
OD-L	AL	3	3	[1, 2]	0.8948	-1.5212	6.55	0.000e+00
OD-L	AL	3	3	[1, 3]	0.9223	-1.5103	6.55	0.000e+00
OD-L	AL	3	3	[1, 4]	0.9497	-1.4994	6.55	0.000e+00
OD-L	AL	3	3	[2, 1]	0.8674	-1.5321	7.49	0.000e+00
OD-L	AL	3	3	[2, 2]	0.8948	-1.5212	7.49	0.000e+00
OD-L	AL	3	3	[2, 3]	0.9223	-1.5103	7.49	0.000e+00
OD-L	AL	3	3	[2, 4]	0.9497	-1.4994	7.49	0.000e+00
OD-L	AL	3	3	[3, 1]	0.8674	-1.5321	8.42	0.000e+00
OD-L	AL	3	3	[3, 2]	0.8948	-1.5212	8.42	0.000e+00
OD-L	AL	3	3	[3, 3]	0.9223	-1.5103	8.42	0.000e+00
OD-L	AL	3	3	[3, 4]	0.9497	-1.4994	8.42	0.000e+00
OD-L	AL	3	3	[4, 1]	0.8674	-1.5321	9.36	0.000e+00
OD-L	AL	3	3	[4, 2]	0.8948	-1.5212	9.36	0.000e+00
OD-L	AL	3	3	[4, 3]	0.9223	-1.5103	9.36	0.000e+00
OD-L	AL	3	3	[4, 4]	0.9497	-1.4994	9.36	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	AL	3	4	[1, 1]	0.9819	-1.4866	6.55	0.000e+00
OD-L	AL	3	4	[1, 2]	1.0094	-1.4757	6.55	0.000e+00
OD-L	AL	3	4	[1, 3]	1.0368	-1.4648	6.55	0.000e+00
OD-L	AL	3	4	[1, 4]	1.0643	-1.4539	6.55	0.000e+00
OD-L	AL	3	4	[2, 1]	0.9819	-1.4866	7.49	0.000e+00
OD-L	AL	3	4	[2, 2]	1.0094	-1.4757	7.49	0.000e+00
OD-L	AL	3	4	[2, 3]	1.0368	-1.4648	7.49	0.000e+00
OD-L	AL	3	4	[2, 4]	1.0643	-1.4539	7.49	0.000e+00
OD-L	AL	3	4	[3, 1]	0.9819	-1.4866	8.42	0.000e+00
OD-L	AL	3	4	[3, 2]	1.0094	-1.4757	8.42	0.000e+00
OD-L	AL	3	4	[3, 3]	1.0368	-1.4648	8.42	0.000e+00
OD-L	AL	3	4	[3, 4]	1.0643	-1.4539	8.42	0.000e+00
OD-L	AL	3	4	[4, 1]	0.9819	-1.4866	9.36	0.000e+00
OD-L	AL	3	4	[4, 2]	1.0094	-1.4757	9.36	0.000e+00
OD-L	AL	3	4	[4, 3]	1.0368	-1.4648	9.36	0.000e+00
OD-L	AL	3	4	[4, 4]	1.0643	-1.4539	9.36	0.000e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	GF	51	1	[1, 1]	0.6383	-1.6230	186.55	1.232e+00
OD-L	GF	51	1	[1, 2]	0.6657	-1.6121	186.55	1.218e+00
OD-L	GF	51	1	[1, 3]	0.6932	-1.6012	186.55	1.203e+00
OD-L	GF	51	1	[1, 4]	0.7206	-1.5903	186.55	1.189e+00
OD-L	GF	51	1	[2, 1]	0.6383	-1.6230	187.49	1.232e+00
OD-L	GF	51	1	[2, 2]	0.6657	-1.6121	187.49	1.217e+00
OD-L	GF	51	1	[2, 3]	0.6932	-1.6012	187.49	1.203e+00
OD-L	GF	51	1	[2, 4]	0.7206	-1.5903	187.49	1.188e+00
OD-L	GF	51	1	[3, 1]	0.6383	-1.6230	188.42	1.231e+00
OD-L	GF	51	1	[3, 2]	0.6657	-1.6121	188.42	1.217e+00
OD-L	GF	51	1	[3, 3]	0.6932	-1.6012	188.42	1.203e+00
OD-L	GF	51	1	[3, 4]	0.7206	-1.5903	188.42	1.188e+00
OD-L	GF	51	1	[4, 1]	0.6383	-1.6230	189.36	1.231e+00
OD-L	GF	51	1	[4, 2]	0.6657	-1.6121	189.36	1.217e+00
OD-L	GF	51	1	[4, 3]	0.6932	-1.6012	189.36	1.203e+00
OD-L	GF	51	1	[4, 4]	0.7206	-1.5903	189.36	1.188e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	GF	51	2	[1, 1]	0.7528	-1.5775	186.55	1.172e+00
OD-L	GF	51	2	[1, 2]	0.7803	-1.5666	186.55	1.160e+00
OD-L	GF	51	2	[1, 3]	0.8077	-1.5557	186.55	1.149e+00
OD-L	GF	51	2	[1, 4]	0.8352	-1.5448	186.55	1.137e+00
OD-L	GF	51	2	[2, 1]	0.7528	-1.5775	187.49	1.172e+00
OD-L	GF	51	2	[2, 2]	0.7803	-1.5666	187.49	1.160e+00
OD-L	GF	51	2	[2, 3]	0.8077	-1.5557	187.49	1.149e+00
OD-L	GF	51	2	[2, 4]	0.8352	-1.5448	187.49	1.137e+00
OD-L	GF	51	2	[3, 1]	0.7528	-1.5775	188.42	1.172e+00
OD-L	GF	51	2	[3, 2]	0.7803	-1.5666	188.42	1.160e+00
OD-L	GF	51	2	[3, 3]	0.8077	-1.5557	188.42	1.149e+00
OD-L	GF	51	2	[3, 4]	0.8352	-1.5448	188.42	1.137e+00
OD-L	GF	51	2	[4, 1]	0.7528	-1.5775	189.36	1.172e+00
OD-L	GF	51	2	[4, 2]	0.7803	-1.5666	189.36	1.160e+00
OD-L	GF	51	2	[4, 3]	0.8077	-1.5557	189.36	1.149e+00
OD-L	GF	51	2	[4, 4]	0.8352	-1.5448	189.36	1.137e+00
Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	GF	51	3	[1, 1]	0.8674	-1.5321	186.55	1.120e+00
OD-L	GF	51	3	[1, 2]	0.8948	-1.5212	186.55	1.107e+00
OD-L	GF	51	3	[1, 3]	0.9223	-1.5103	186.55	1.098e+00
OD-L	GF	51	3	[1, 4]	0.9497	-1.4994	186.55	1.089e+00
OD-L	GF	51	3	[2, 1]	0.8674	-1.5321	187.49	1.120e+00
OD-L	GF	51	3	[2, 2]	0.8948	-1.5212	187.49	1.107e+00
OD-L	GF	51	3	[2, 3]	0.9223	-1.5103	187.49	1.098e+00
OD-L	GF	51	3	[2, 4]	0.9497	-1.4994	187.49	1.089e+00
OD-L	GF	51	3	[3, 1]	0.8674	-1.5321	188.42	1.120e+00
OD-L	GF	51	3	[3, 2]	0.8948	-1.5212	188.42	1.107e+00
OD-L	GF	51	3	[3, 3]	0.9223	-1.5103	188.42	1.098e+00
OD-L	GF	51	3	[3, 4]	0.9497	-1.4994	188.42	1.089e+00
OD-L	GF	51	3	[4, 1]	0.8674	-1.5321	189.36	1.120e+00
OD-L	GF	51	3	[4, 2]	0.8948	-1.5212	189.36	1.107e+00
OD-L	GF	51	3	[4, 3]	0.9223	-1.5103	189.36	1.098e+00
OD-L	GF	51	3	[4, 4]	0.9497	-1.4994	189.36	1.089e+00

Table 2, continuation

Name	Sect	iT	iR	[it,ir]	r[m]	z[m]	gf ^o	gF/gF_0
OD-L	GF	52	4	[1, 1]	0.9819	-1.4866	189.84	1.074e+00
OD-L	GF	52	4	[1, 2]	1.0094	-1.4757	189.84	1.063e+00
OD-L	GF	52	4	[1, 3]	1.0368	-1.4648	189.84	1.052e+00
OD-L	GF	52	4	[1, 4]	1.0643	-1.4539	189.84	1.040e+00
OD-L	GF	52	4	[2, 1]	0.9819	-1.4866	190.78	1.074e+00
OD-L	GF	52	4	[2, 2]	1.0094	-1.4757	190.78	1.063e+00
OD-L	GF	52	4	[2, 3]	1.0368	-1.4648	190.78	1.052e+00
OD-L	GF	52	4	[2, 4]	1.0643	-1.4539	190.78	1.040e+00
OD-L	GF	52	4	[3, 1]	0.9819	-1.4866	191.72	1.074e+00
OD-L	GF	52	4	[3, 2]	1.0094	-1.4757	191.72	1.063e+00
OD-L	GF	52	4	[3, 3]	1.0368	-1.4648	191.72	1.052e+00
OD-L	GF	52	4	[3, 4]	1.0643	-1.4539	191.72	1.040e+00
OD-L	GF	52	4	[4, 1]	0.9819	-1.4866	192.66	1.074e+00
OD-L	GF	52	4	[4, 2]	1.0094	-1.4757	192.66	1.063e+00
OD-L	GF	52	4	[4, 3]	1.0368	-1.4648	192.66	1.052e+00
OD-L	GF	52	4	[4, 4]	1.0643	-1.4539	192.66	1.040e+00

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