

Status of energy deposition studies at IR7

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- _ IR7 layout implementation.
- _ Preliminary results:
 - Collimators.
 - Collimator TCSG.
 - MQTLH.
 - MBW.
- _ Next steps.

IR7 layout implementation

- _ Over 200 objects.

- _ Virtual parking with about 20 prototypes.

- _ Prototypes are replicated, rotated and translated.

Computations for:

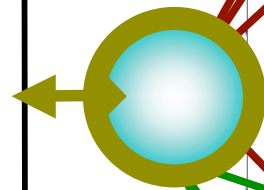
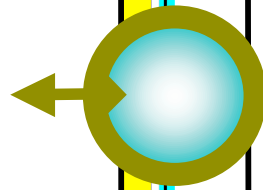
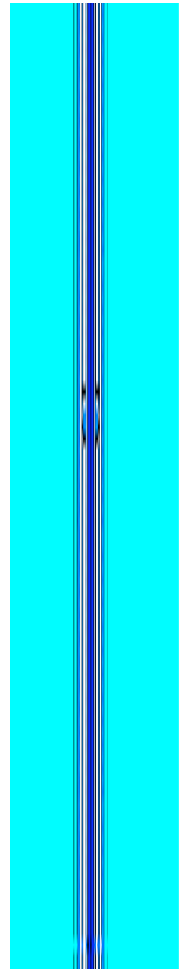
- _ Electronics

- Collimators

- Coils

- ...

e.g. collimator prototype 'Parking'

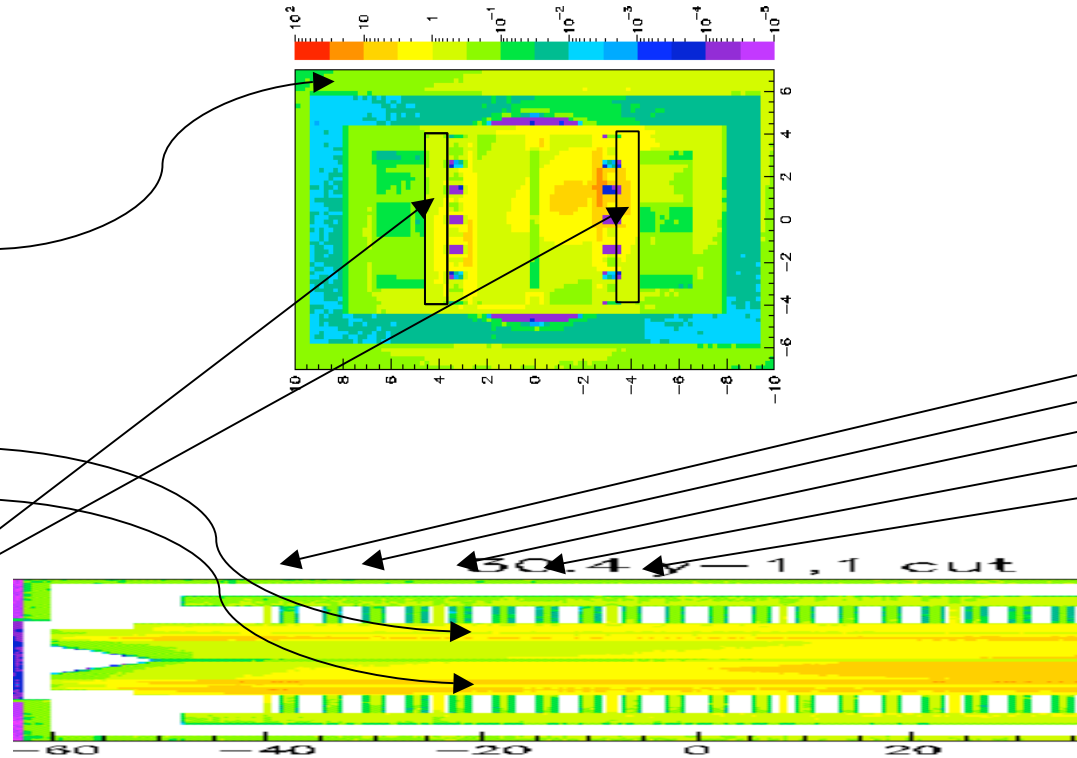


Simulation section

- _ FLUKA
- _ Collection of tools and scripts:
 - _ Lattic
 - _ MCNPX
 - _ interactive plot
 - _ EnLattice
 - _ Flukaplot
 - _ ...

Preliminary results. Collimators. TCSG.A6.L7

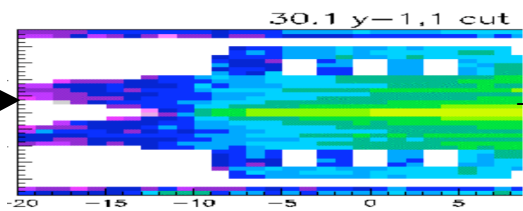
Region	W
entr:344	0.98
exit:345	9.18
cups:347	75.97
box:348	726.35
clSR:350	87.44
clSL:351	125.2
plaR:352	355.21
plaL:353	70.64
scaR:354	129.74
jawR:355	412.31
scaL:356	52.1
jawL:357	611.33
CuJR:358	225.48
CuJL:359	854.42
clAR:360	124.11
clAL:361	1478.78
vclR:362	4168.6
vclL:363	691.55



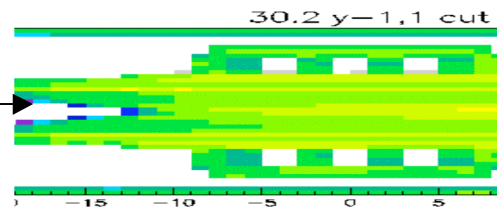
Region	W
sprR:364	667.01
sprL:365	1094.88
piJR:366	193.12
piJL:367	389.75
CusR:368	11.87
CusL:369	1292.21
ho1R:370	0.07
ho2R:371	2817.07
ho3R:372	1151.7
ho4R:373	2382.4
ho5R:374	648.73
ho1L:375	1335.47
ho4L:378	85.8
ho5L:379	159.51
shaR:380	44.69
shaL:381	109.54
Total:	22583.5

Preliminary results. Collimators.

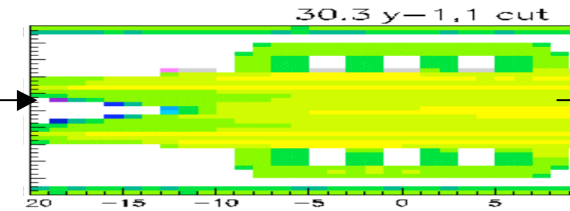
$Z = -20497$ cm



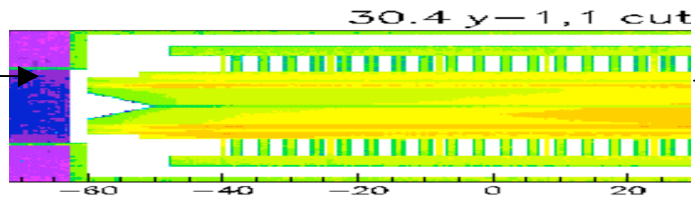
$Z = -20297$ cm



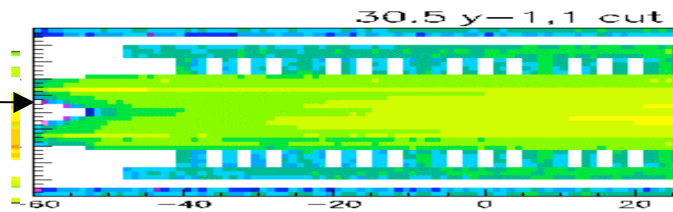
$Z = -20097$ cm



$Z = -16148$ cm



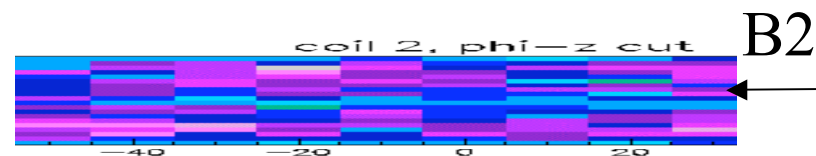
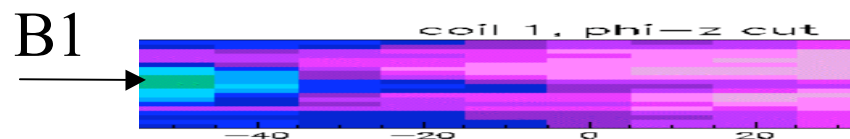
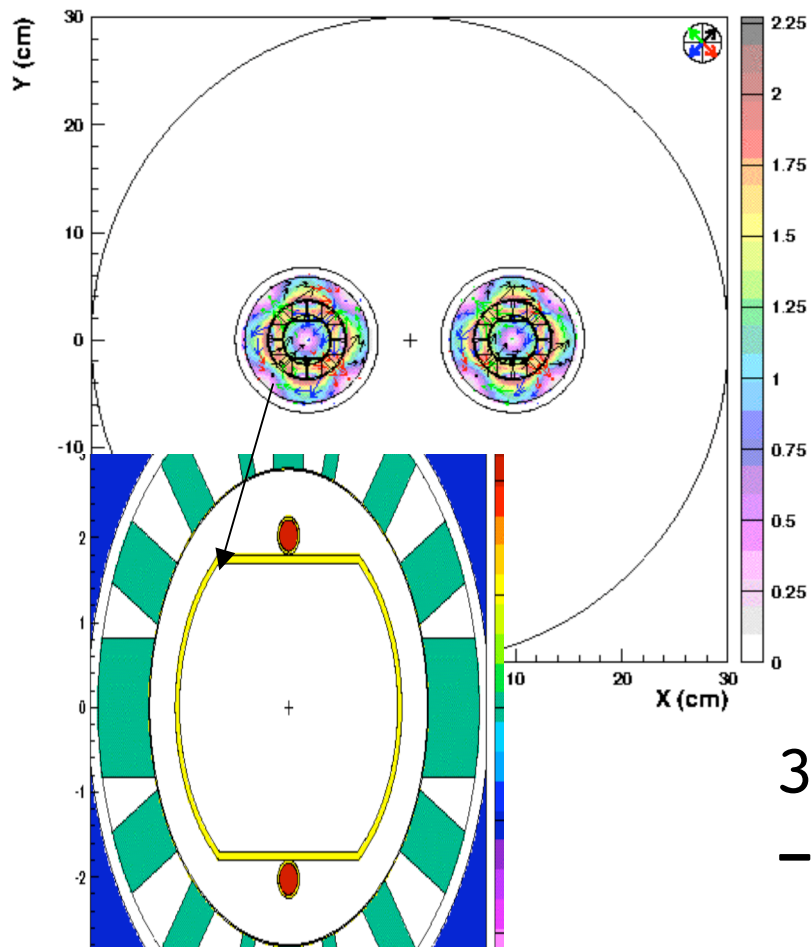
$Z = -10225$ cm



W/ cm³

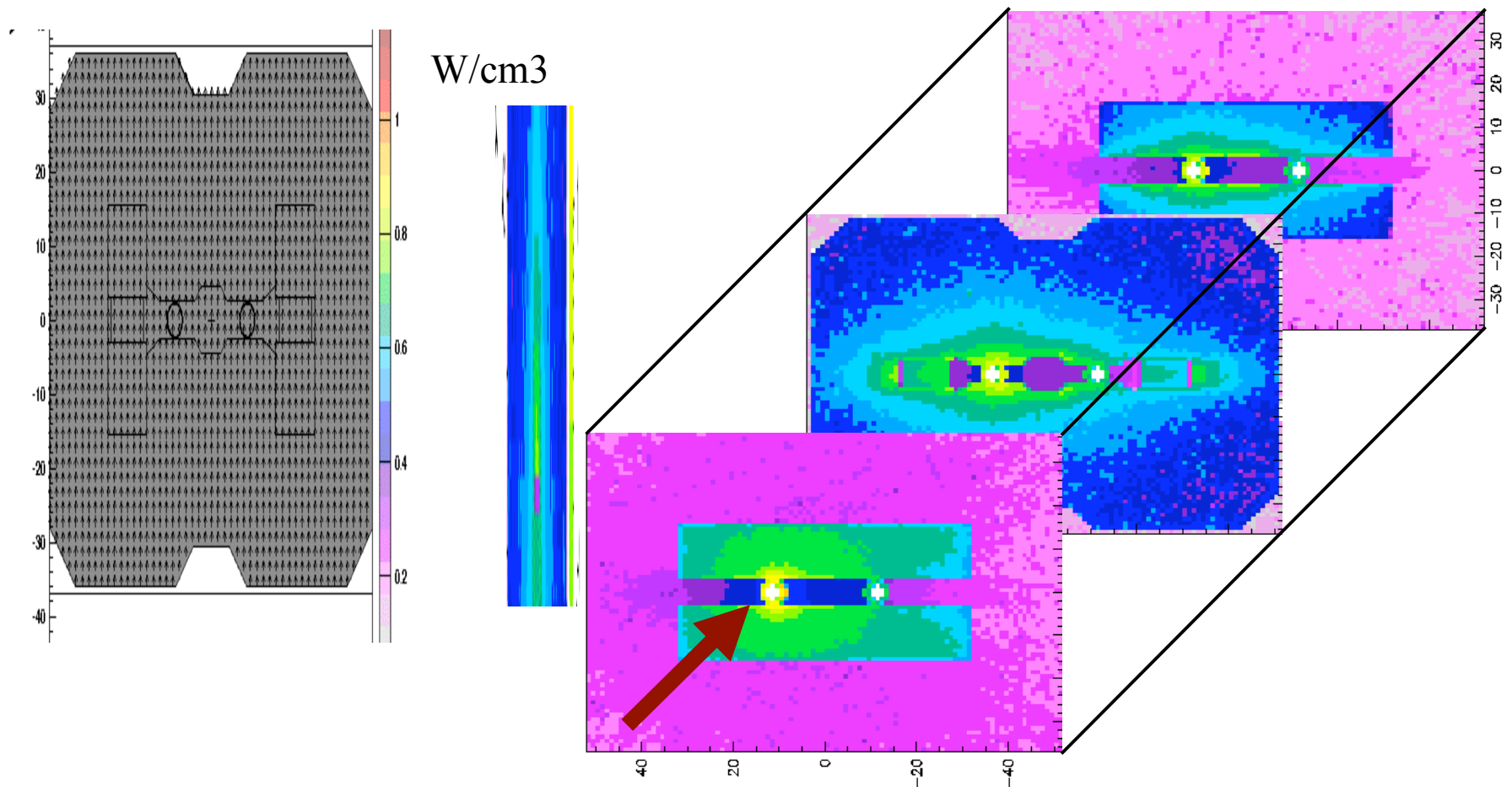
Preliminary results. Coils. MQTLH.A6R7

Pos=0.0,0.0,22496. Ext=30 30



$300 \text{ mW/cm}^3 \gg 5 \text{ mW/cm}^3 -$
 $\rightarrow \text{quench !}$

Preliminary results. MBW



Next steps.

- _ Study of beam profile.
- _ Introduction of absorbers.
- _ Minimization of heat deposition in sensitive areas.