ROSWELL PARK CANCER INSTITUTE

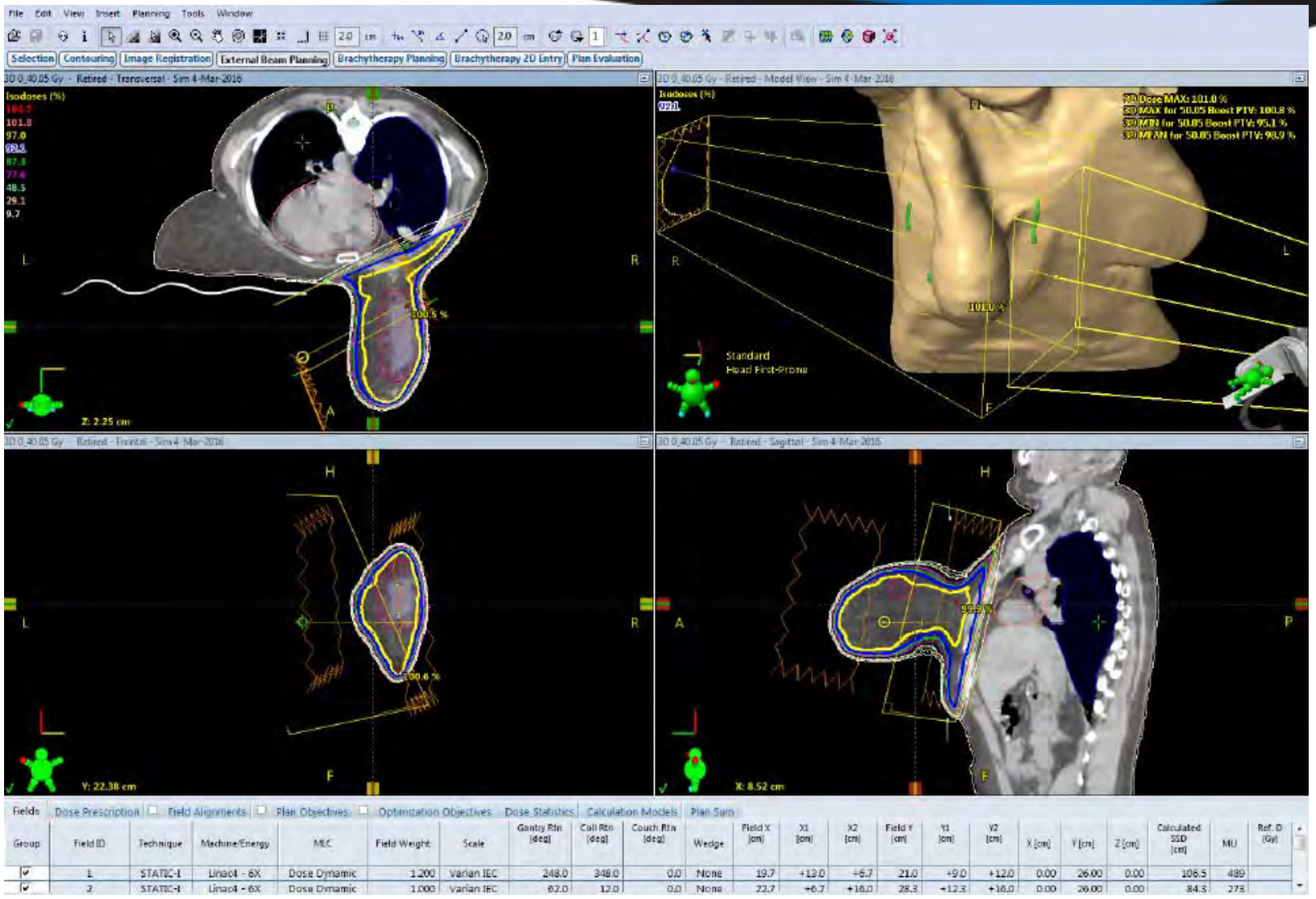
Prone Breast – Comp What?

Rachel A. Hackett CMD, RTT

ROSWELL PARK CANCER INSTITUTE

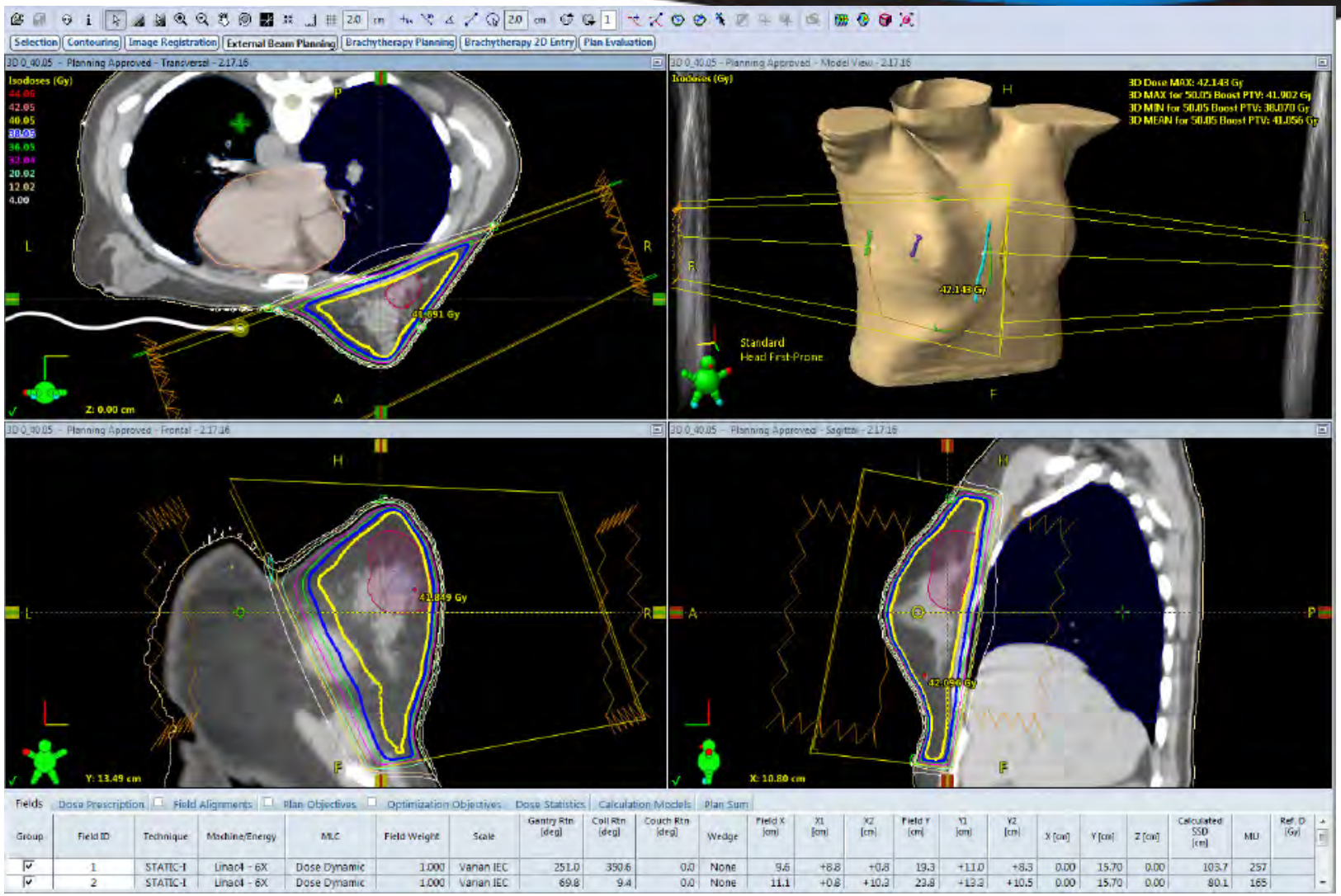
- Disclosures
- Examples of prone cases
  - Lung dose
  - Heart dose
  - General look of the dose
- Case study

ROSWELL PARK CANCER INSTITUTE



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
✔	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.200	Varian IEC	248.0	348.0	0.0	None	19.7	+13.0	+6.7	21.0	+9.0	+12.0	0.00	26.00	0.00	106.5	489	
✔	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	62.0	12.0	0.0	None	22.7	+6.7	+16.0	28.3	+12.3	+16.0	0.00	26.00	0.00	84.3	273	

ROSWELL PARK CANCER INSTITUTE

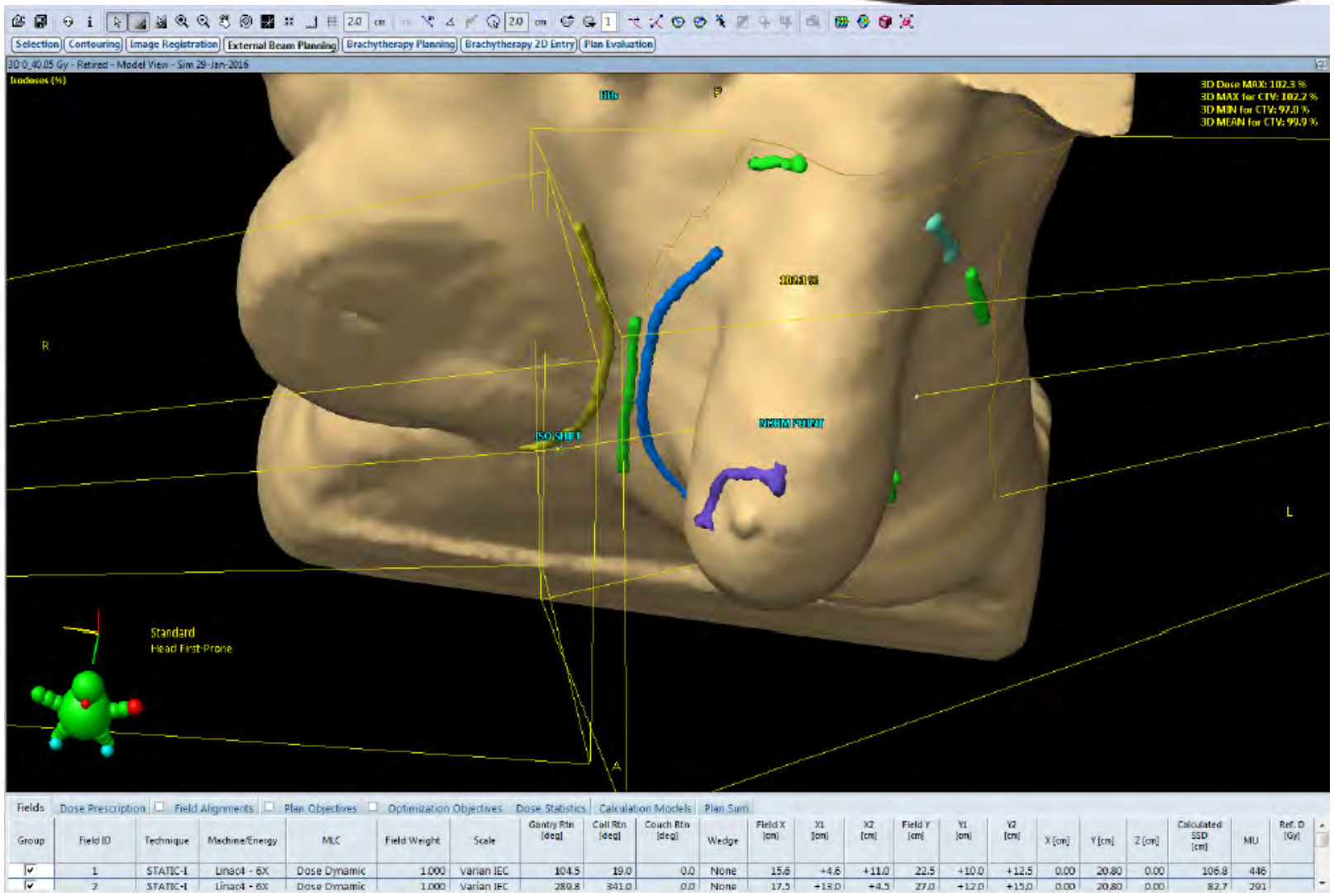


Fields | Dose Prescription | Field Alignments | Plan Objectives | Optimization Objectives | Dose Statistics | Calculation Models | Plan Sum

Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	251.0	350.6	0.0	None	9.6	+6.8	+0.8	19.3	+11.0	+8.3	0.00	15.70	0.00	103.7	257	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	69.8	9.4	0.0	None	11.1	+0.8	+10.3	23.8	+13.3	+10.5	0.00	15.70	0.00	80.1	165	

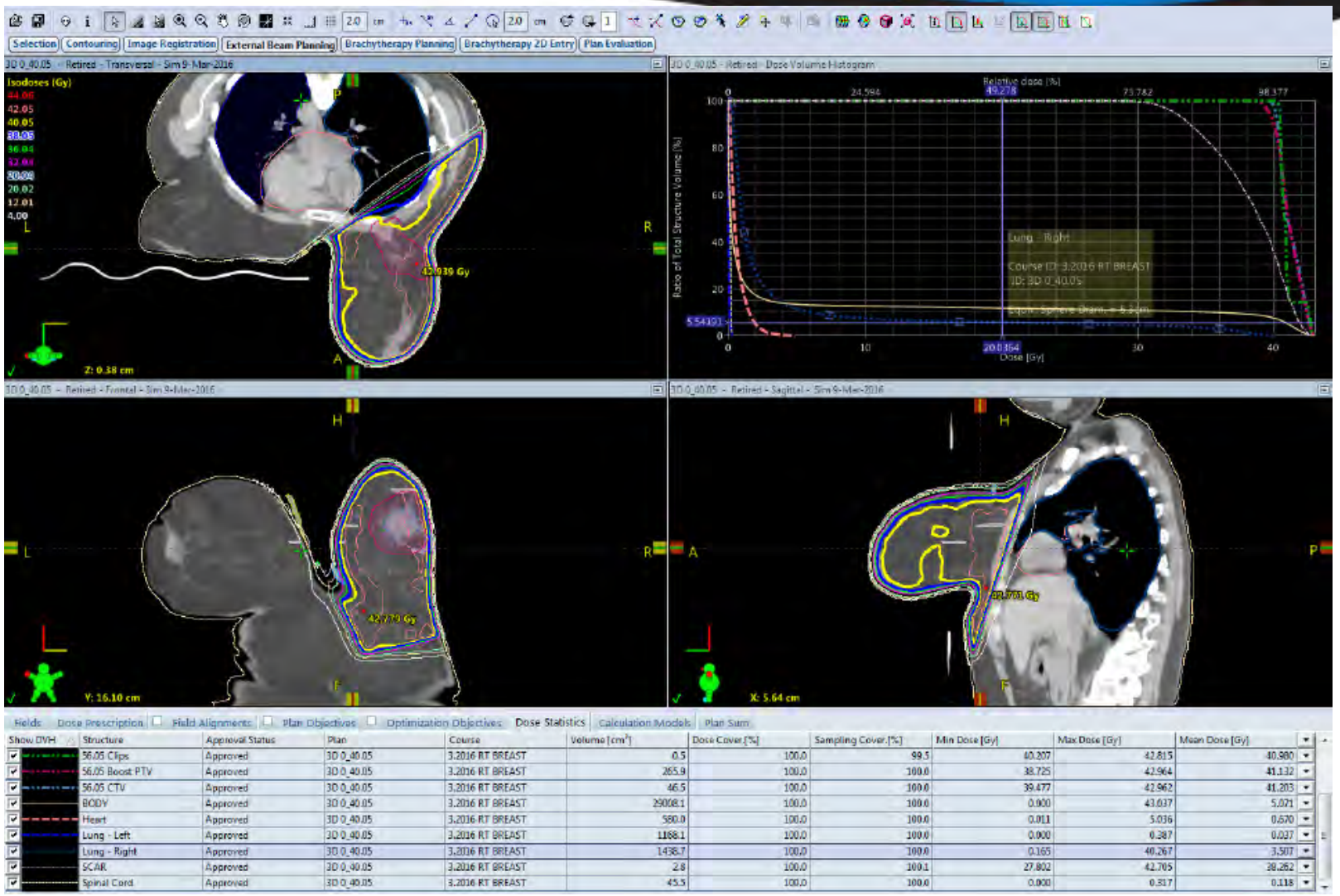
ROSWELL PARK CANCER INSTITUTE

Bad Swipe?



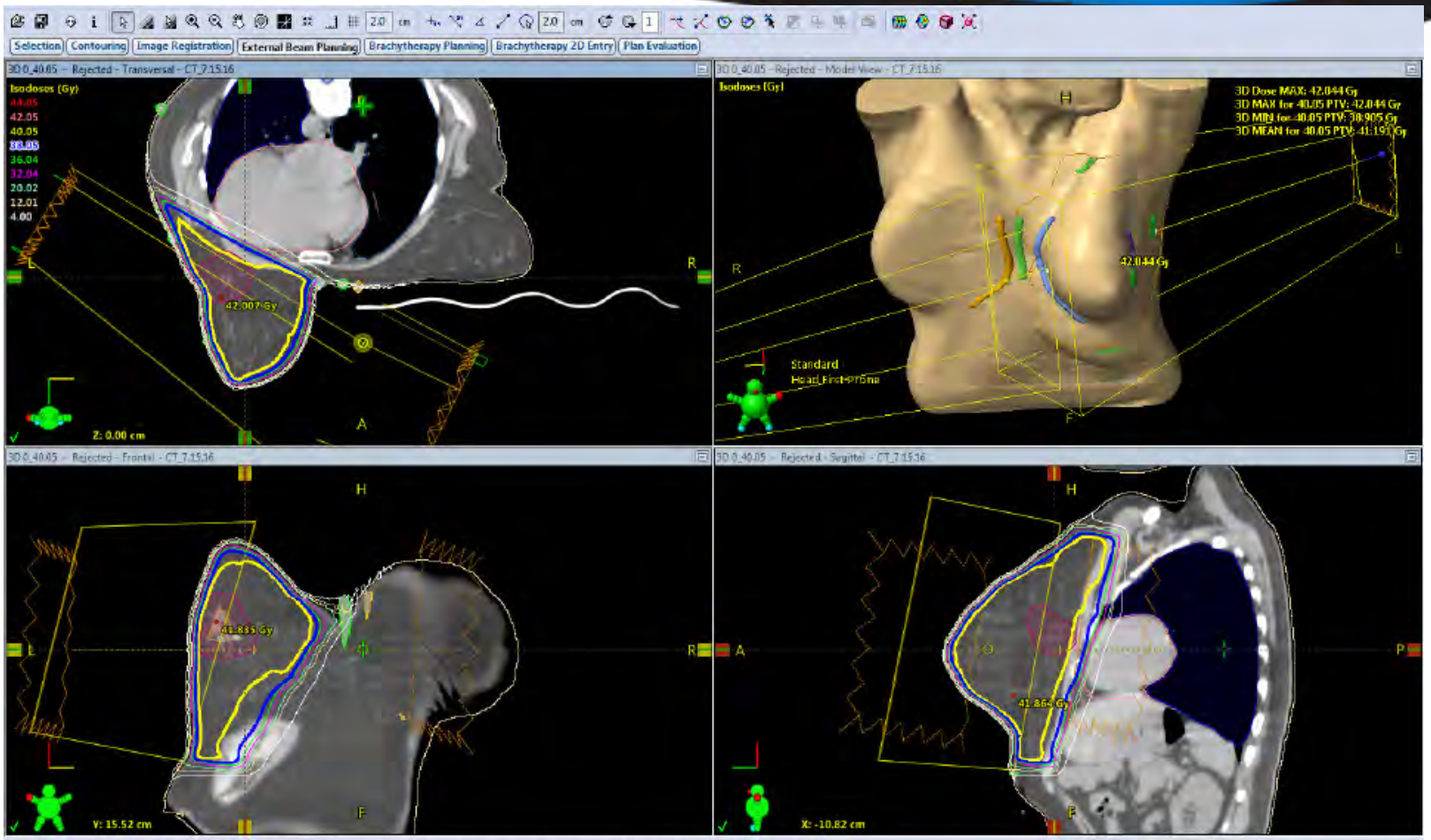
ROSWELL PARK CANCER INSTITUTE

Lung Dose



Show DVH	Structure	Approval Status	Plan	Course	Volume [cm³]	Dose Cover.[%]	Sampling Cover.[%]	Min Dose [Gy]	Max Dose [Gy]	Mean Dose [Gy]
☑	56.05 Clips	Approved	3D 0_40.05	3.2016 RT BREAST	0.5	100.0	99.5	40.207	42.815	40.980
☑	56.05 Boost PTV	Approved	3D 0_40.05	3.2016 RT BREAST	265.9	100.0	100.0	38.725	42.964	41.132
☑	56.05 CTV	Approved	3D 0_40.05	3.2016 RT BREAST	46.5	100.0	100.0	39.477	42.962	41.203
☑	BODY	Approved	3D 0_40.05	3.2016 RT BREAST	29008.1	100.0	100.0	0.000	43.037	5.021
☑	Heart	Approved	3D 0_40.05	3.2016 RT BREAST	580.0	100.0	100.0	0.011	5.036	0.670
☑	Lung - Left	Approved	3D 0_40.05	3.2016 RT BREAST	1168.1	100.0	100.0	0.000	0.387	0.037
☑	Lung - Right	Approved	3D 0_40.05	3.2016 RT BREAST	1438.7	100.0	100.0	0.165	40.267	3.507
☑	SCAR	Approved	3D 0_40.05	3.2016 RT BREAST	2.8	100.0	100.1	27.802	42.705	38.262
☑	Spinal Cord	Approved	3D 0_40.05	3.2016 RT BREAST	45.5	100.0	100.0	0.000	0.317	0.118

ROSWELL PARK CANCER INSTITUTE

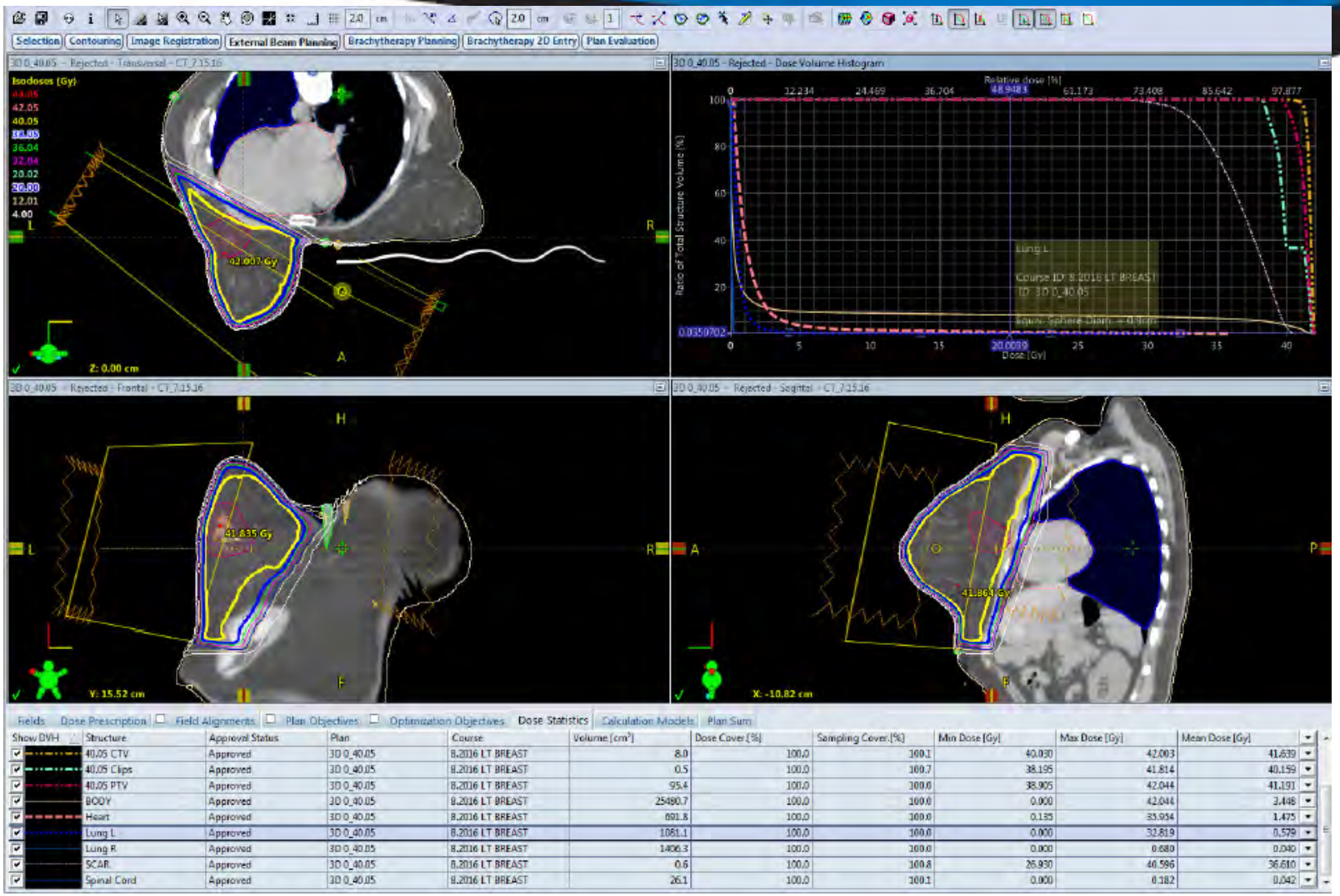


Fields | Dose Prescription | Field Alignments | Plan Objectives | Optimization Objectives | Dose Statistics | Calculation Models | Plan Sum

Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.100	Varian IEC	115.8	9.0	0.0	None	15.0	+4.0	+11.0	19.7	+9.5	+10.2	0.00	21.50	0.00	105.4	488	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	301.0	351.0	0.0	None	17.0	+13.0	+4.0	25.5	+12.5	+13.0	0.00	21.50	0.00	79.1	285	

ROSWELL PARK CANCER INSTITUTE

Heart Dose



Show DVH	Structure	Approval Status	Plan	Course	Volume [cm³]	Dose Cover [%]	Sampling Cover [%]	Min Dose [Gy]	Max Dose [Gy]	Mean Dose [Gy]
☑	40.05 CTV	Approved	3D 0_40.05	8.2016 LT BREAST	8.0	100.0	100.1	40.030	42.003	41.639
☑	40.05 Clips	Approved	3D 0_40.05	8.2016 LT BREAST	0.5	100.0	100.7	38.195	41.814	40.159
☑	40.05 PTV	Approved	3D 0_40.05	8.2016 LT BREAST	95.4	100.0	100.0	38.905	42.044	41.191
☑	BODY	Approved	3D 0_40.05	8.2016 LT BREAST	25480.7	100.0	100.0	0.000	42.044	3.448
☑	Heart	Approved	3D 0_40.05	8.2016 LT BREAST	691.8	100.0	100.0	0.135	35.954	1.475
☑	Lung L	Approved	3D 0_40.05	8.2016 LT BREAST	1051.1	100.0	100.0	0.000	32.819	0.579
☑	Lung R	Approved	3D 0_40.05	8.2016 LT BREAST	1406.3	100.0	100.0	0.000	0.680	0.040
☑	SCAR	Approved	3D 0_40.05	8.2016 LT BREAST	0.6	100.0	100.8	26.930	40.596	36.610
☑	Spinal Cord	Approved	3D 0_40.05	8.2016 LT BREAST	26.1	100.0	100.1	0.000	0.182	0.042

Electronic Compensators - “eComp”

About Electronic Compensators

An electronic compensator is a field modifier implemented by means of a Dynamic MLC (DMLC) that replaces a mechanical compensator. Electronic compensators can speed up the treatment, and also reduce skin dose, since they do not expose the patient to electron contamination from the compensator material or fixed wedge filters. Moreover, electronic compensation does not require the high overhead in production that is present in mechanical compensators, and multi-beam treatments are much faster because there is no need to install a different physical compensator before each treatment beam.

ROSWELL PARK CANCER INSTITUTE

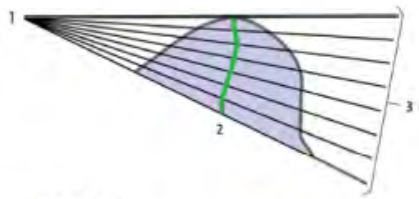
Irregular Surface Compensator

Irregular Surface Compensators

Irregular surface compensator is an electronic compensator designed for creating a curved compensation surface as opposed to a straight compensation plane in traditional physical compensators and normal electronic compensators.

Using a curved compensation surface provides better dose distributions in cases where the shape of the target volume is rounded, such as breast treatments. In breast cases, traditional compensators often create hot spots in the base of the breast near the skin, but this can be avoided with irregular surface compensation.

The shape of the irregular compensation surface is always specific to the shape of each patient's body outline. The position of the desired irregular compensation surface is defined by specifying the desired penetration depth. The penetration depth is the percentage of the penetration of the radiation along each fanline ray through the patient; calculated as path length = exit point - entry point. The penetration depth range is 0–100%, where 0% = entry point; 100% = exit point. A penetration depth of 50% creates a compensation surface that represents the mid-point of every ray. The figure shows schematically what the irregular compensation surface would look like for a curved structure, using penetration depth of 50%.



1. Radiation focus
2. Path of the irregular compensation surface, 50% penetration depth
3. Fanline rays

Penetration Depths, Medial 50% Penetration

The use of different penetration percentages affects the fluence. The larger the penetration depth percentage, the more fluence difference there will be between thin and thick parts of the patient. A value close to but smaller than 50% works well for breast cases.

Note:

An irregular surface compensator does not apply any skin flash to the generated fluence. If necessary, you can apply additional skin flash to the fluence by using the Skin Flash tool.

The calculation of the irregular surface compensator is performed with the Dose Volume Optimizer algorithm using smoothing options. The result is an optimal fluence, which can be converted into an electronic compensator.

ROSWELL PARK CANCER INSTITUTE

Irregular Surface Compensator

Add an Irregular Surface Compensator to a Field

1. In the active plan, insert the necessary fields and field accessories.
2. If desired, calculate the dose distribution.
3. In the Focus window, right-click a field and choose **New Irregular Surface Compensator**.

   You are prompted to select the MLC device, if there are several of them configured to your system.
4. To specify the desired position of the irregular surface for the compensation along each fanline, type the penetration depth and click **OK**.

   The range of possible values is 0–100% penetration (0% = entry point, 100% = exit point). The default value is 50%.

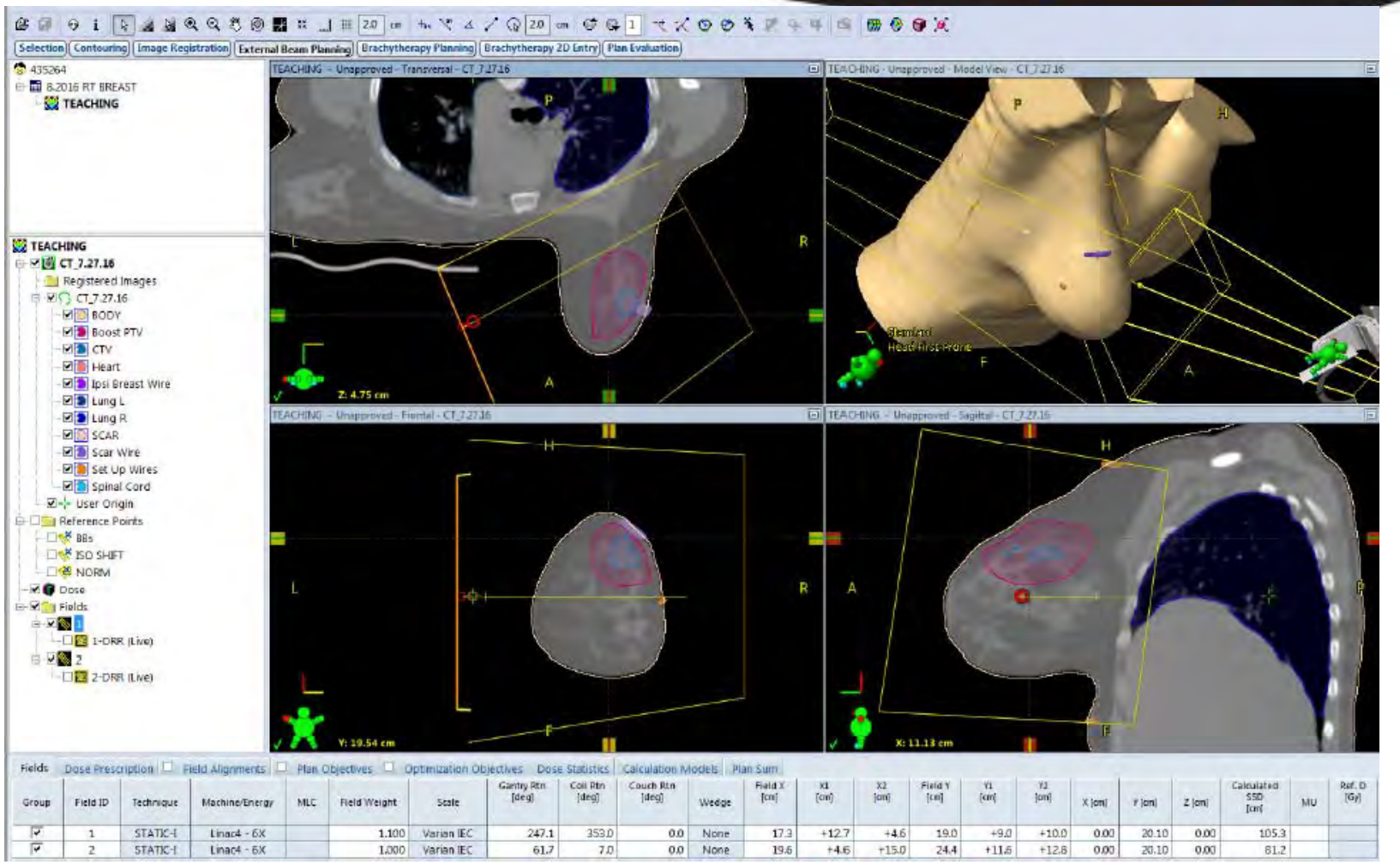
   The irregular surface calculation is started. The fluence appears in the Focus window under the selected field.
5. Re-calculate the dose distribution.
6. Define the LMC settings.

   The leaf motions are calculated and MLCs appear under the fluence in the Focus window.

   Note: An irregular surface compensator does not apply any skin flash to the generated fluence. If necessary, you can apply additional skin flash to the fluence by using the Skin Flash tool.

ROSWELL PARK CANCER INSTITUTE

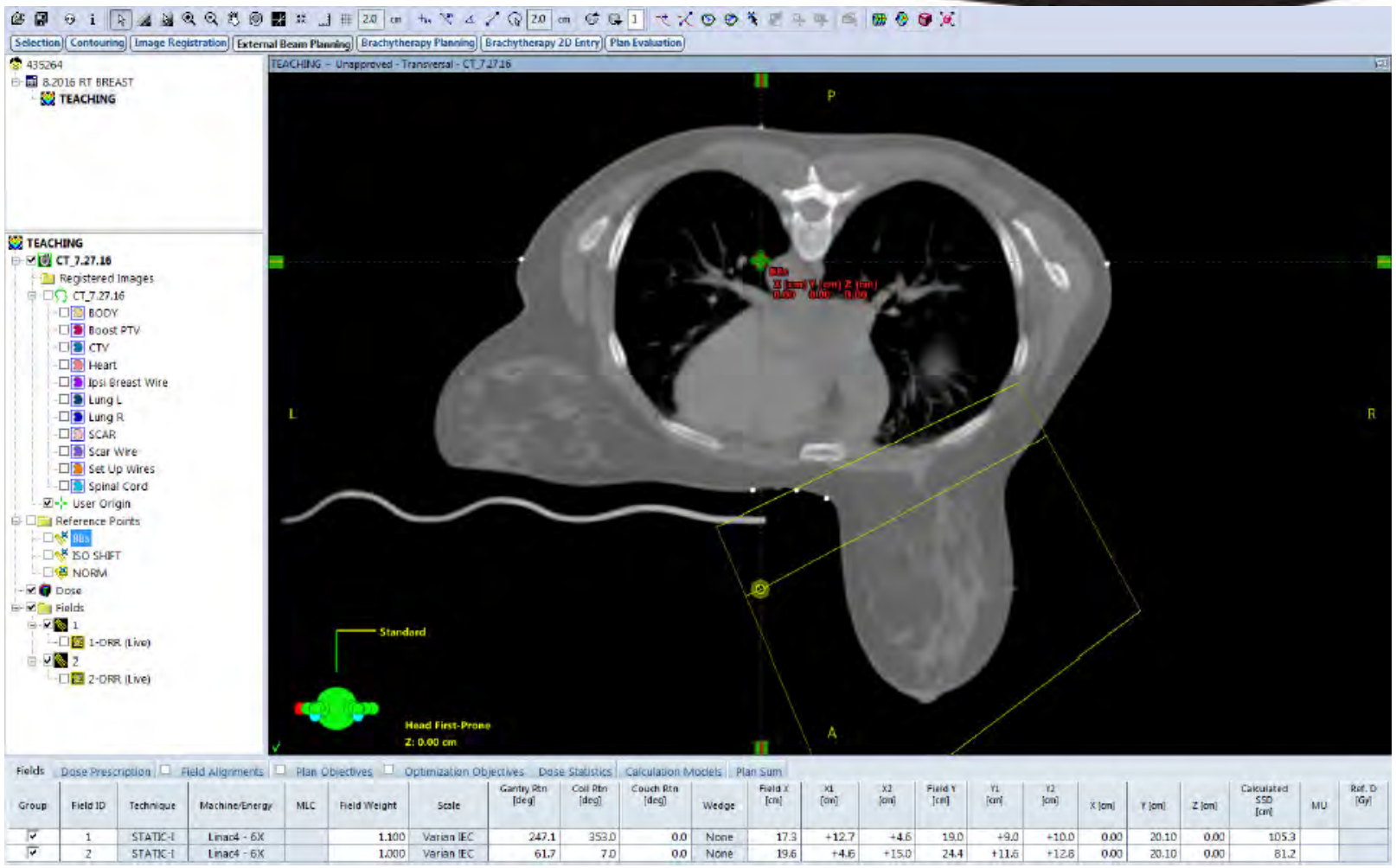
Case Study



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

ROSWELL PARK CANCER INSTITUTE

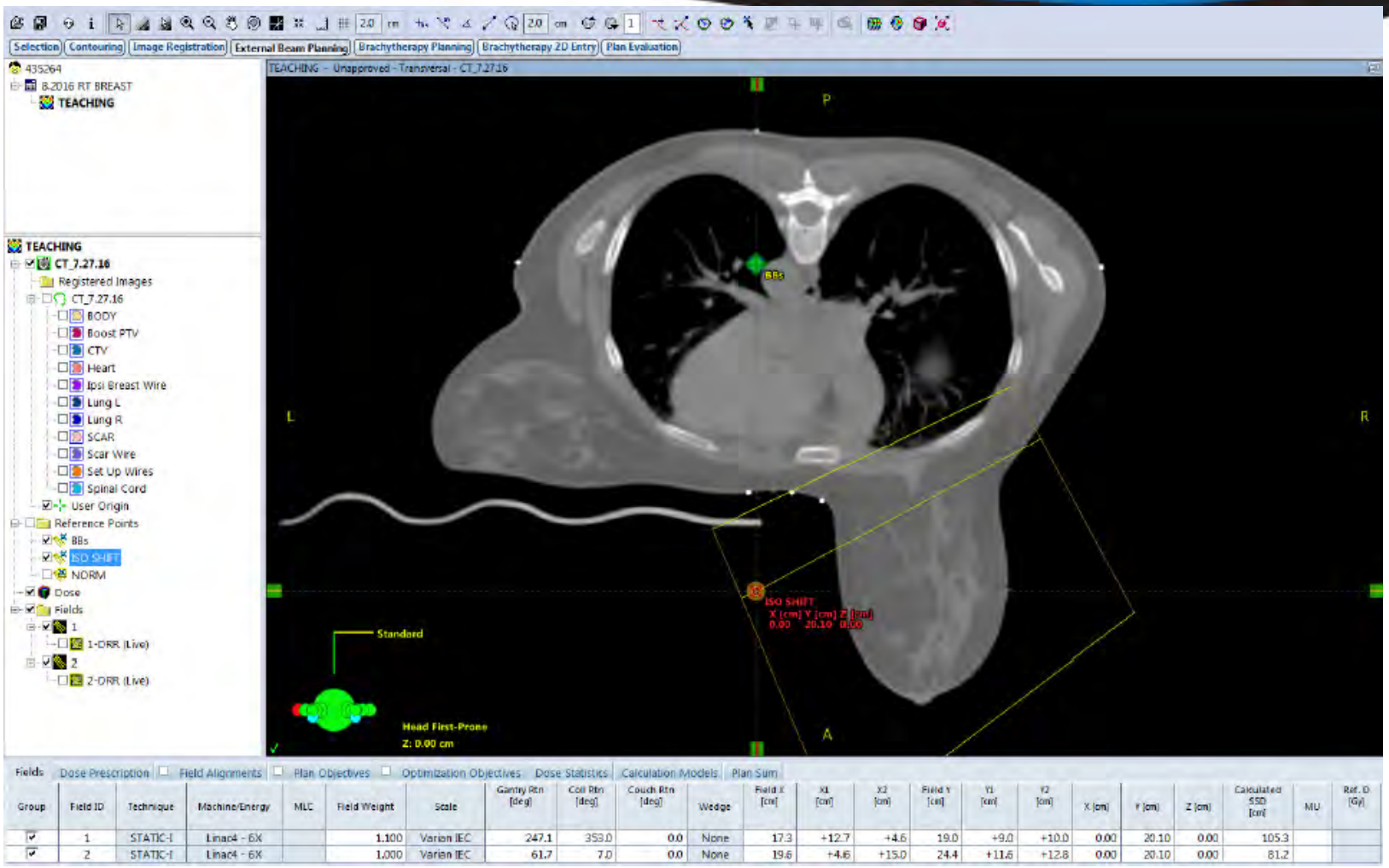
BBs



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

ROSWELL PARK CANCER INSTITUTE

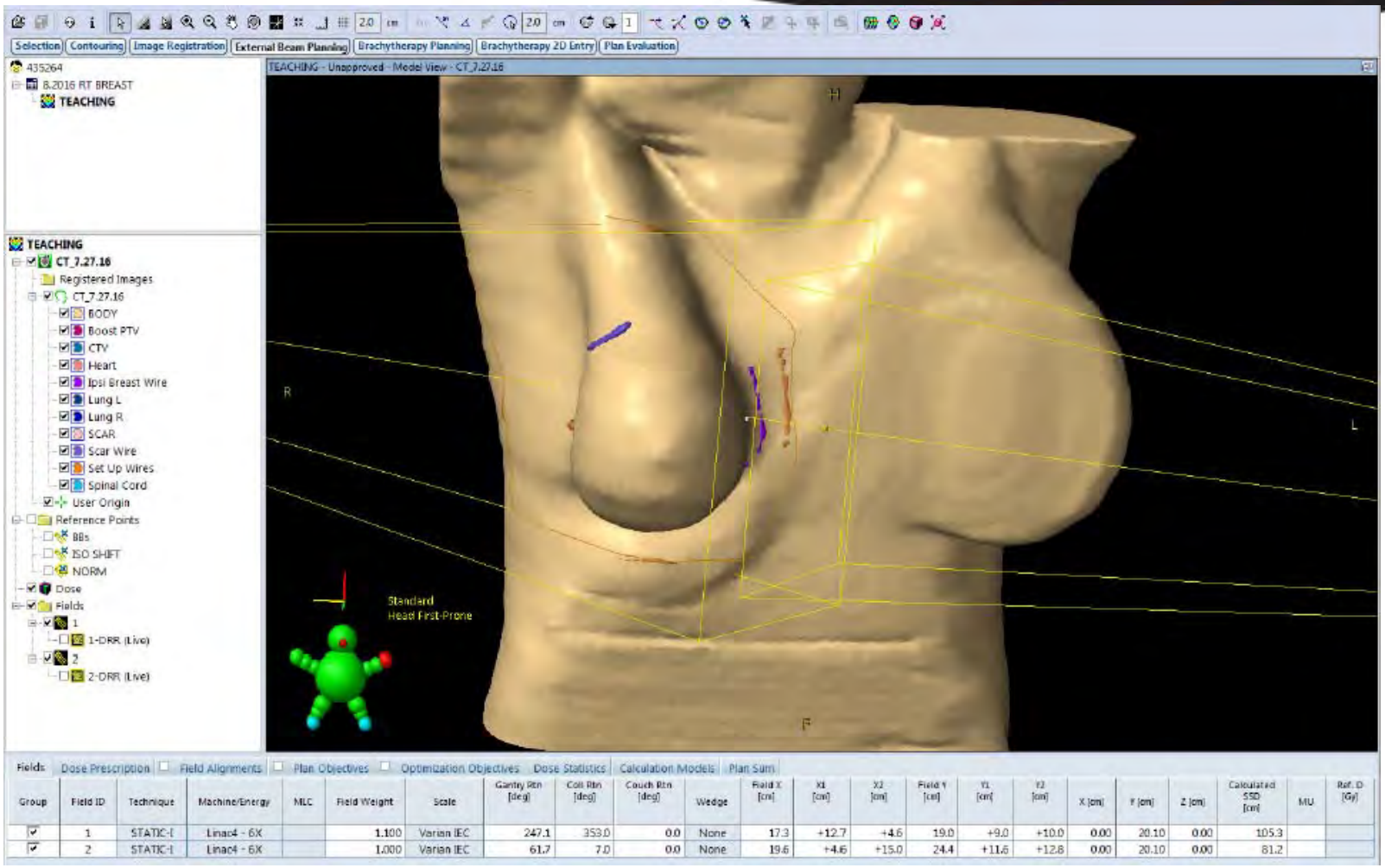
Set Isocenter



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

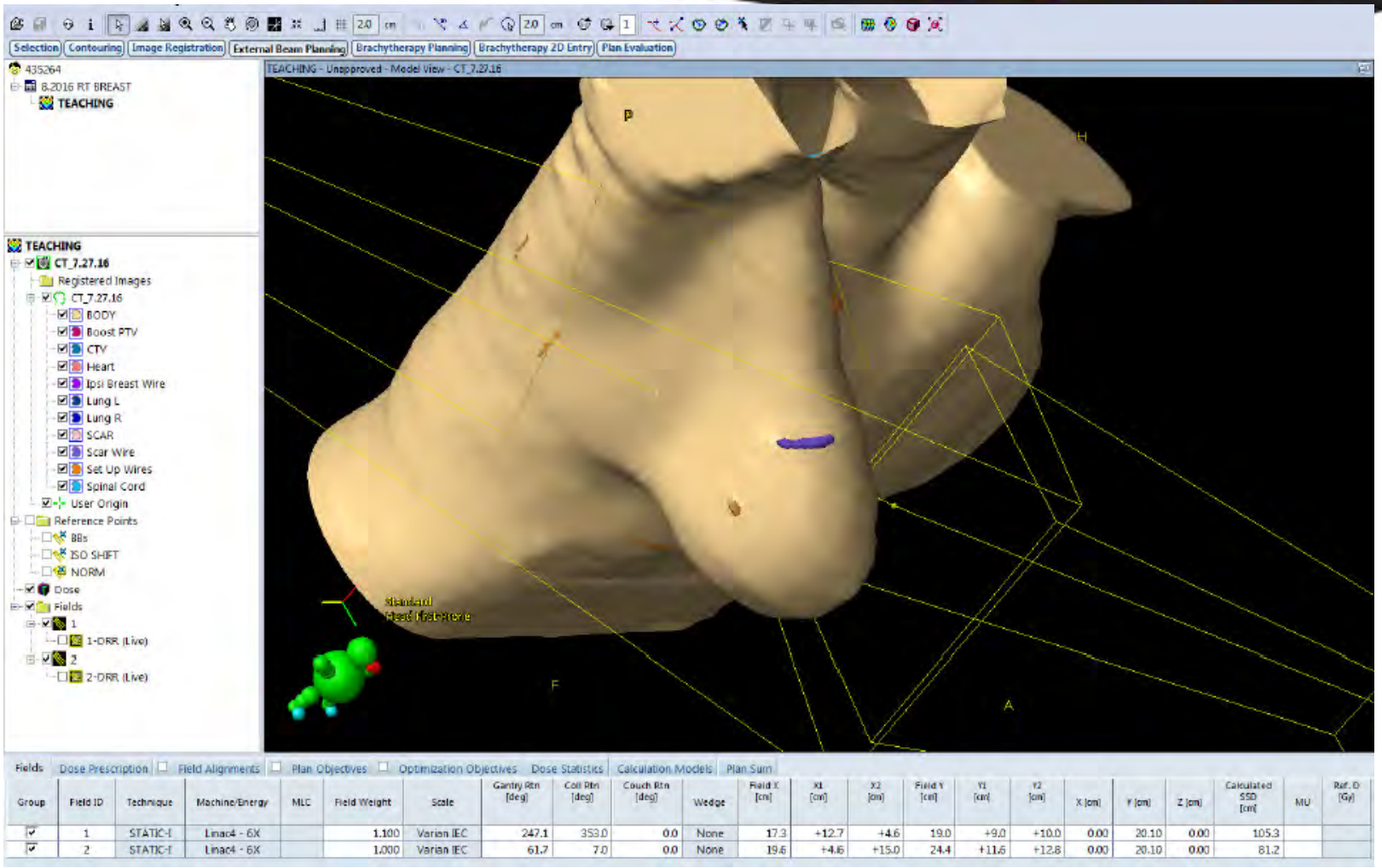
ROSWELL PARK CANCER INSTITUTE

Check Beam Entrances on Skin



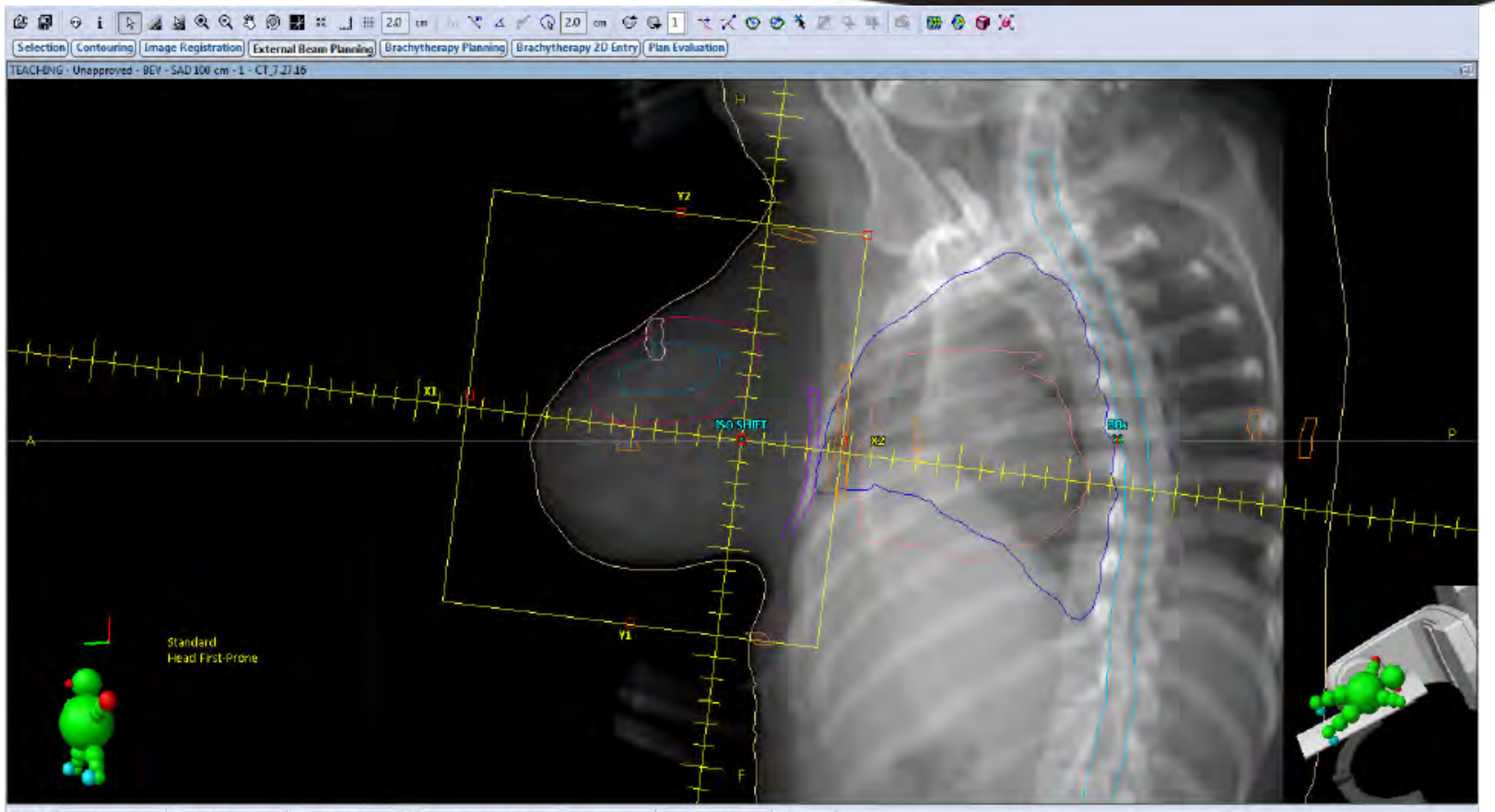
ROSWELL PARK CANCER INSTITUTE

Check Beam Entrances on Skin



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

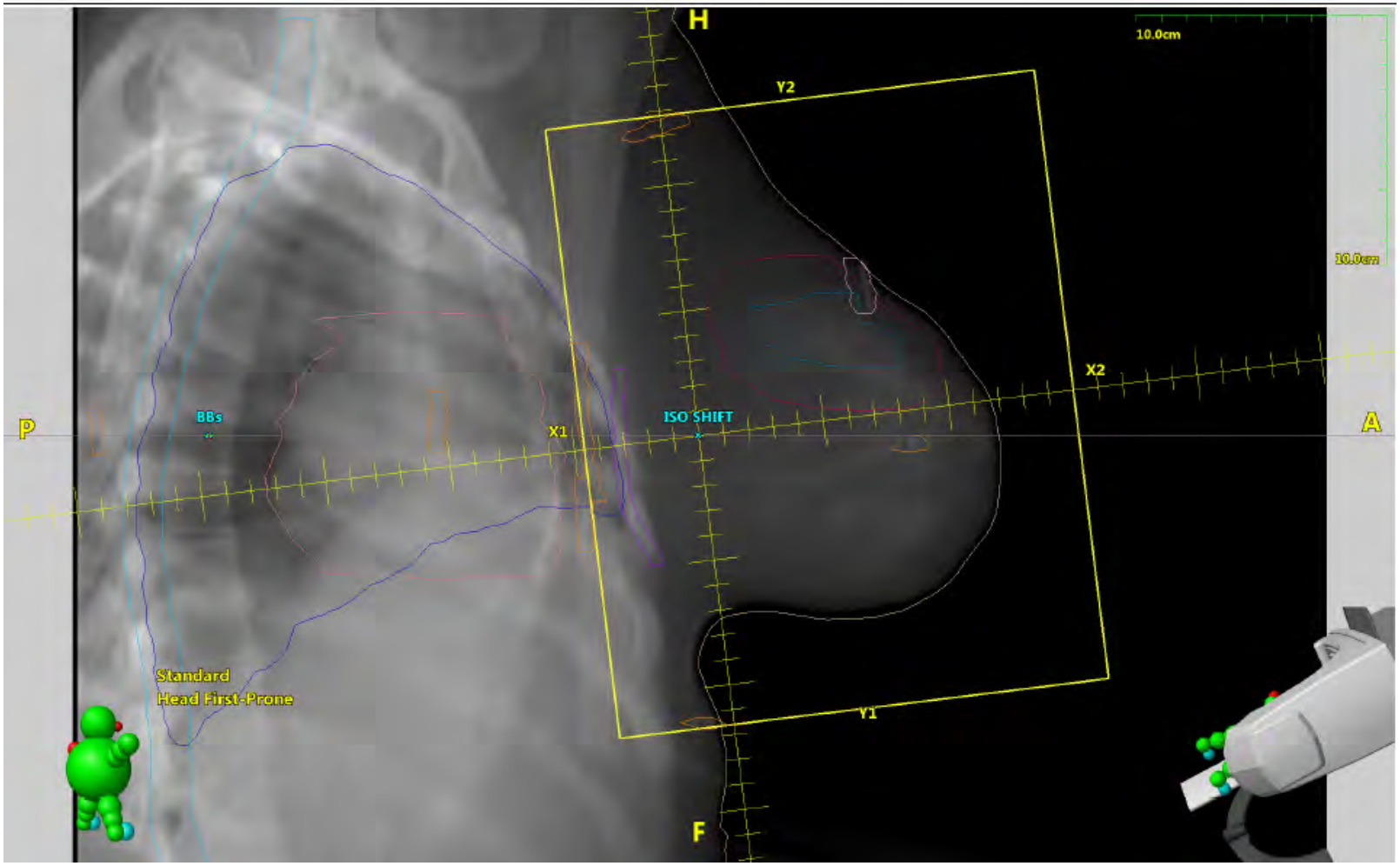
ROSWELL PARK CANCER INSTITUTE



Fields | Dose Prescription | Field Alignments | Plan Objectives | Optimization Objectives | Dose Statistics | Calculation Models | Plan Sum

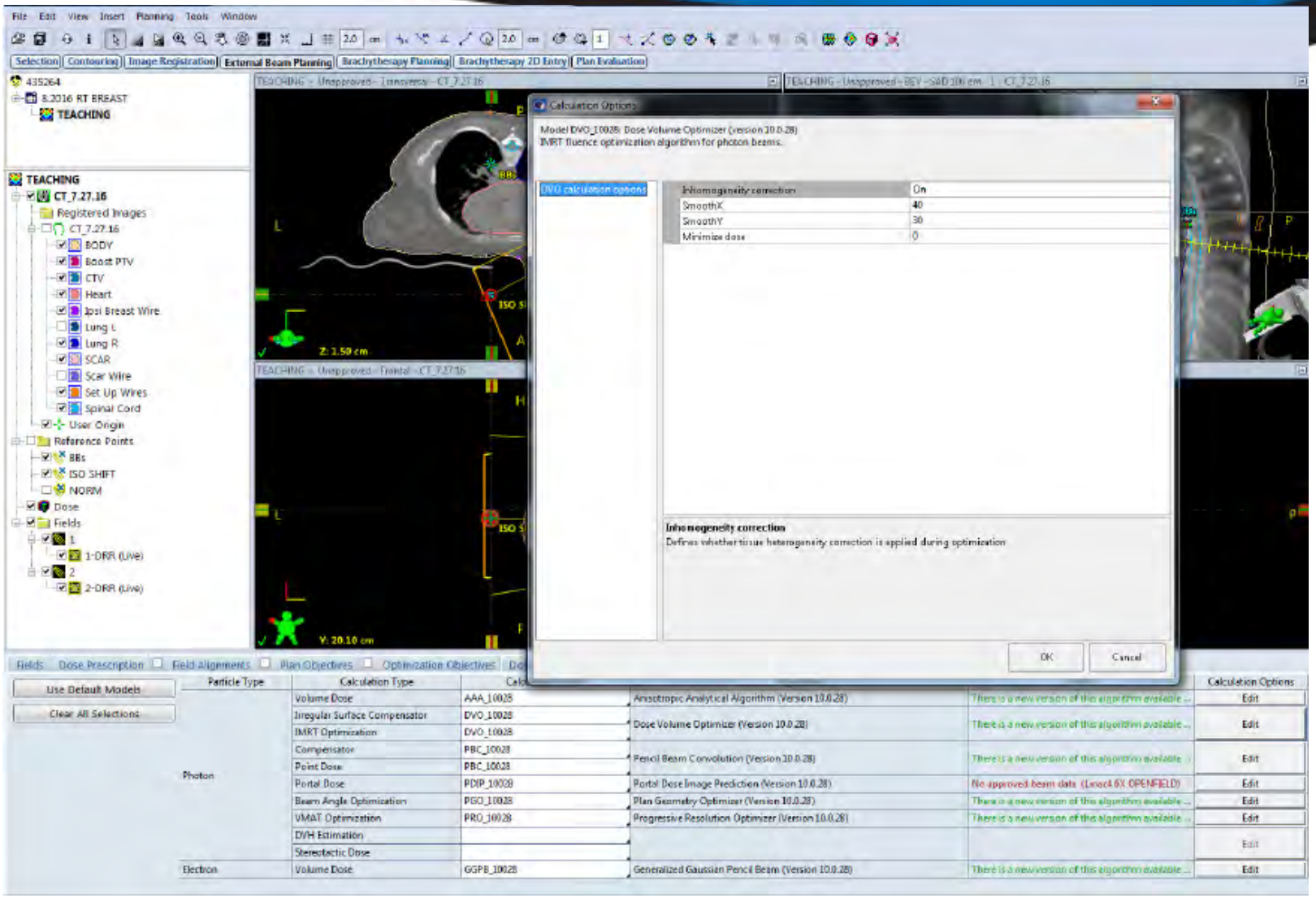
Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

ROSWELL PARK
CANCER INSTITUTE



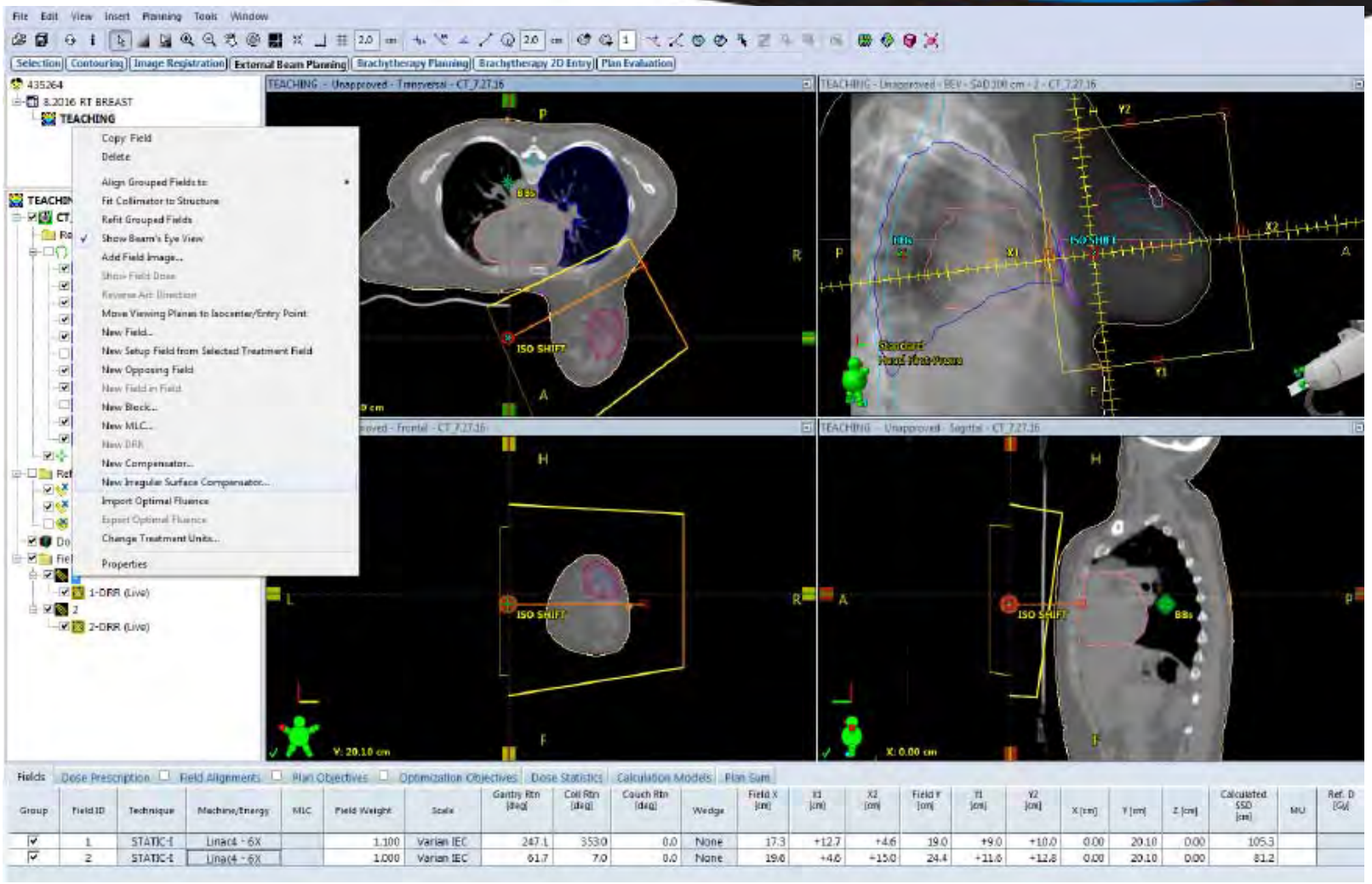
ROSWELL PARK CANCER INSTITUTE

Inhomogeneity Correction ON: Opt + Calc

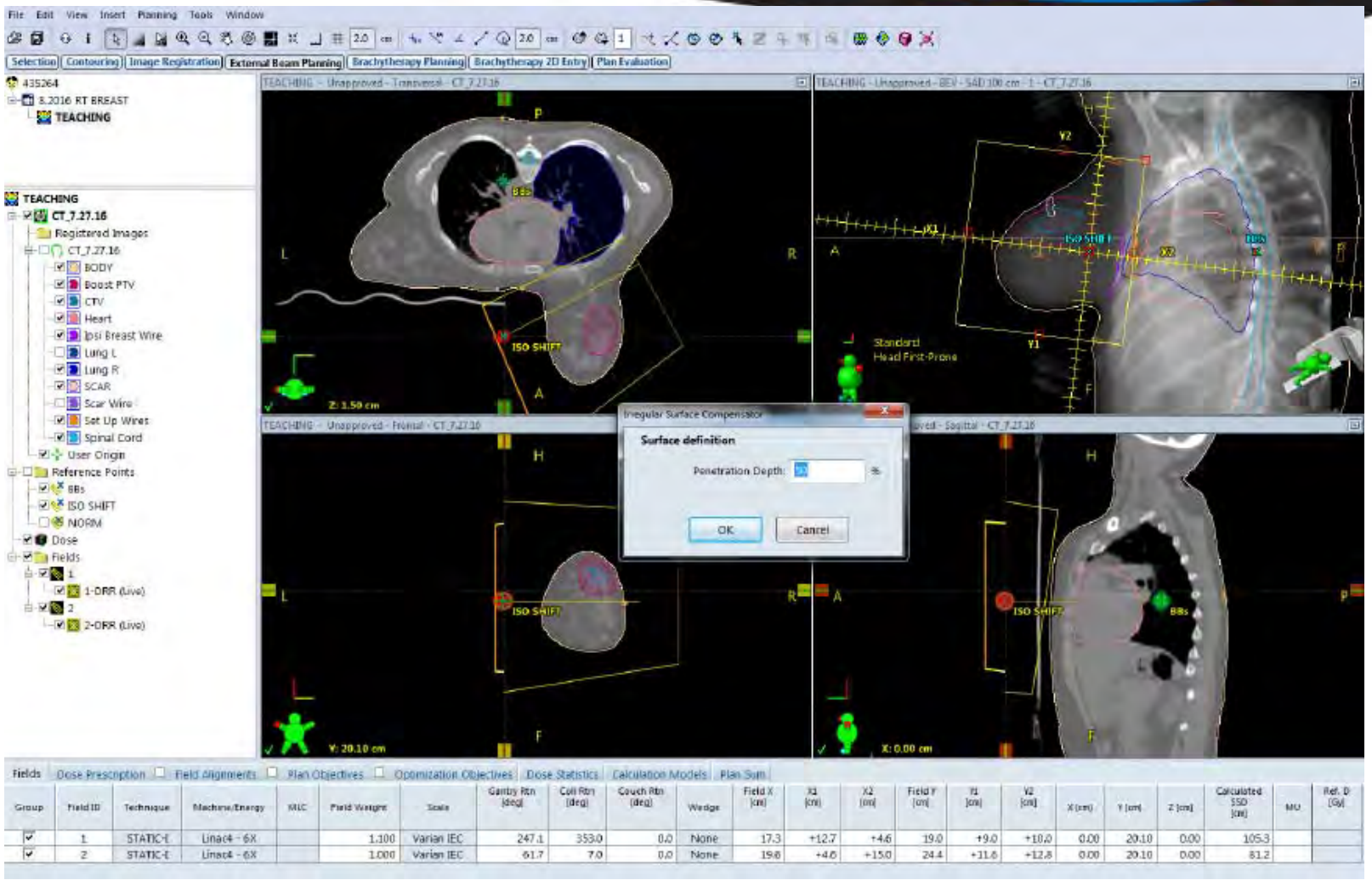


ROSWELL PARK CANCER INSTITUTE

Add an Irreg Surface Comp



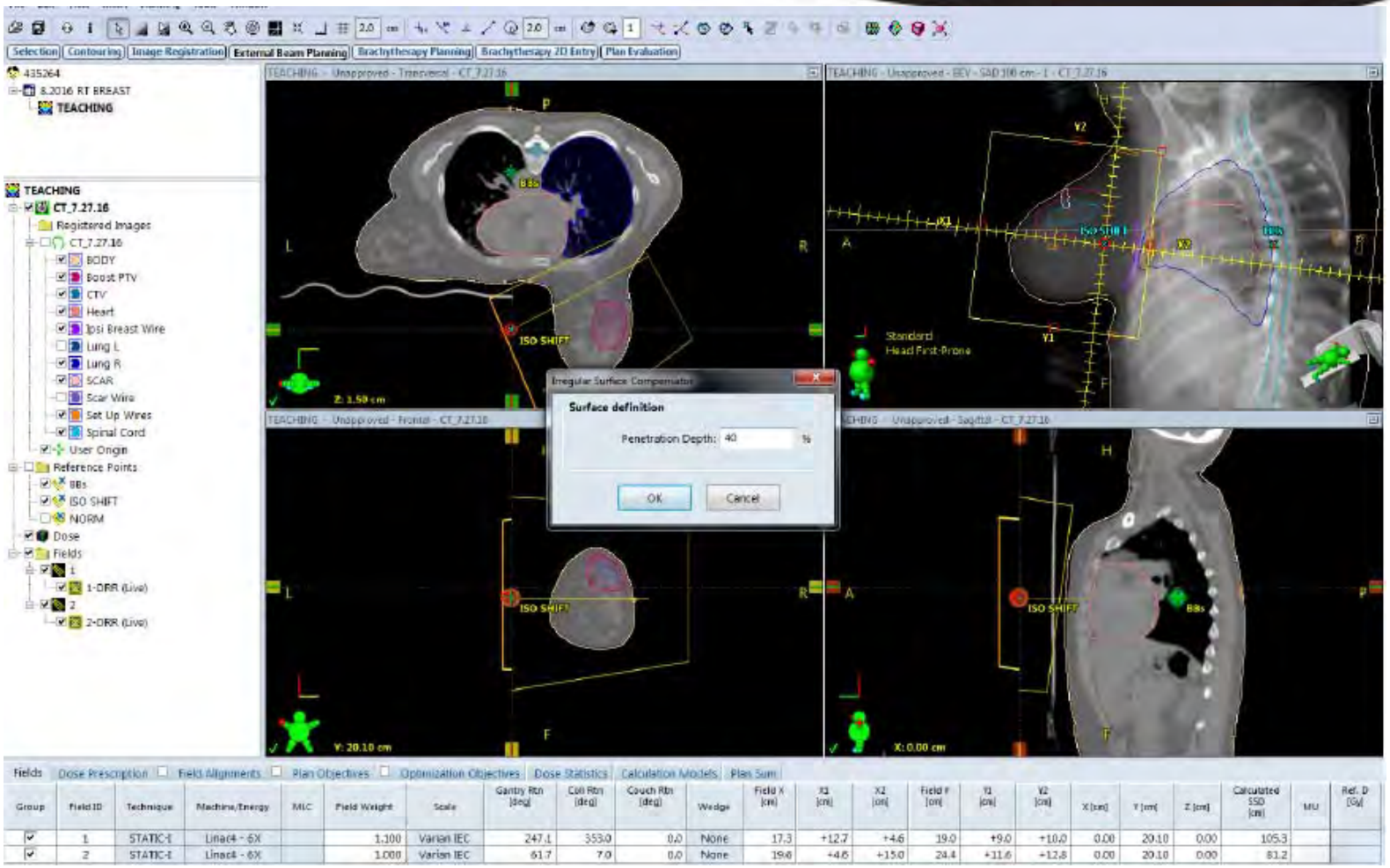
ROSWELL PARK CANCER INSTITUTE



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn (deg)	Coll Rtn (deg)	Couch Rtn (deg)	Wedge	Field X (cm)	X1 (cm)	X2 (cm)	Field Y (cm)	Y1 (cm)	Y2 (cm)	X (cm)	Y (cm)	Z (cm)	Calculated SSD (cm)	MU	Ref. D (Gy)
☑	1	STATIC-E	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-E	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

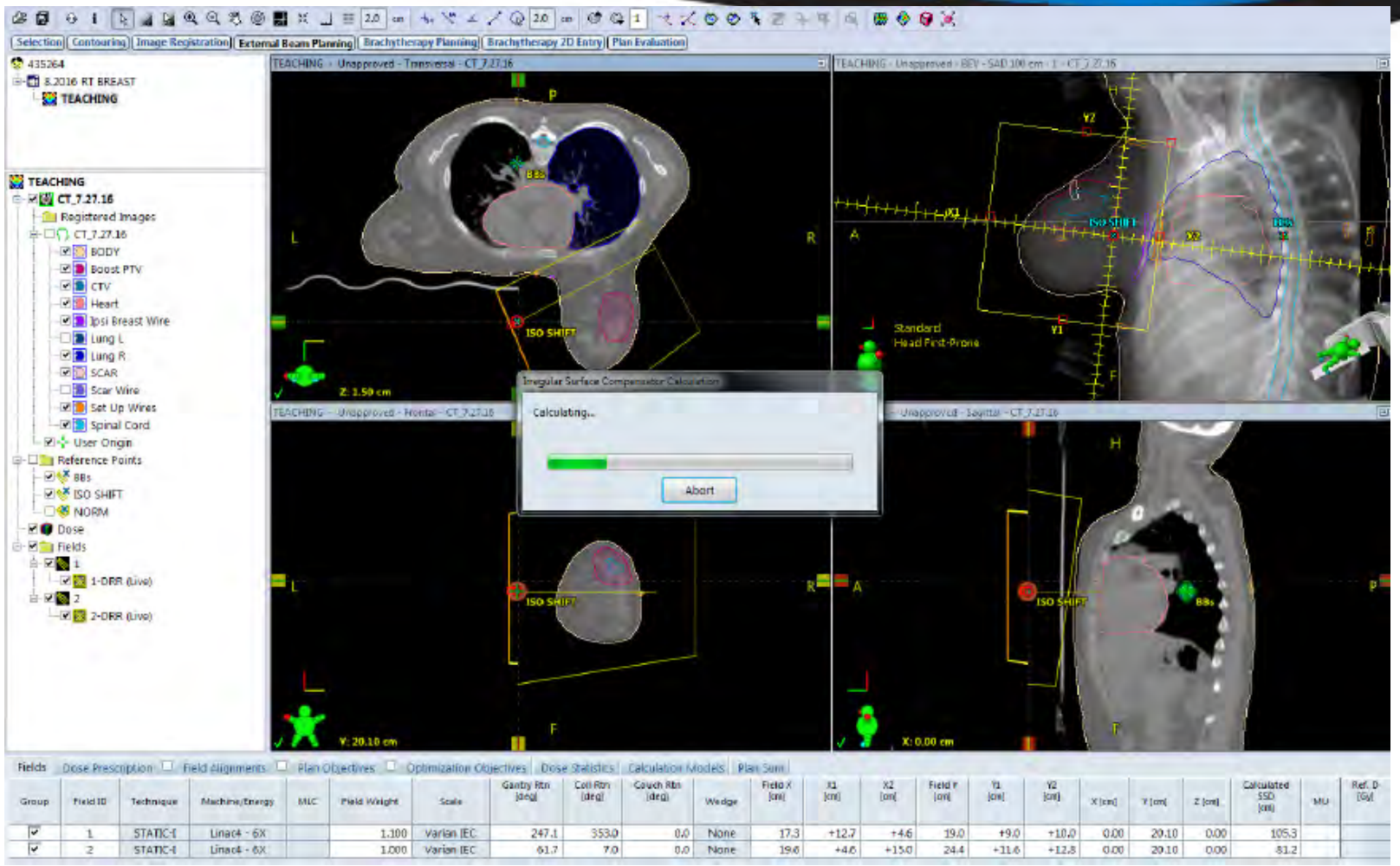
ROSWELL PARK CANCER INSTITUTE

Pick Penetration Depth



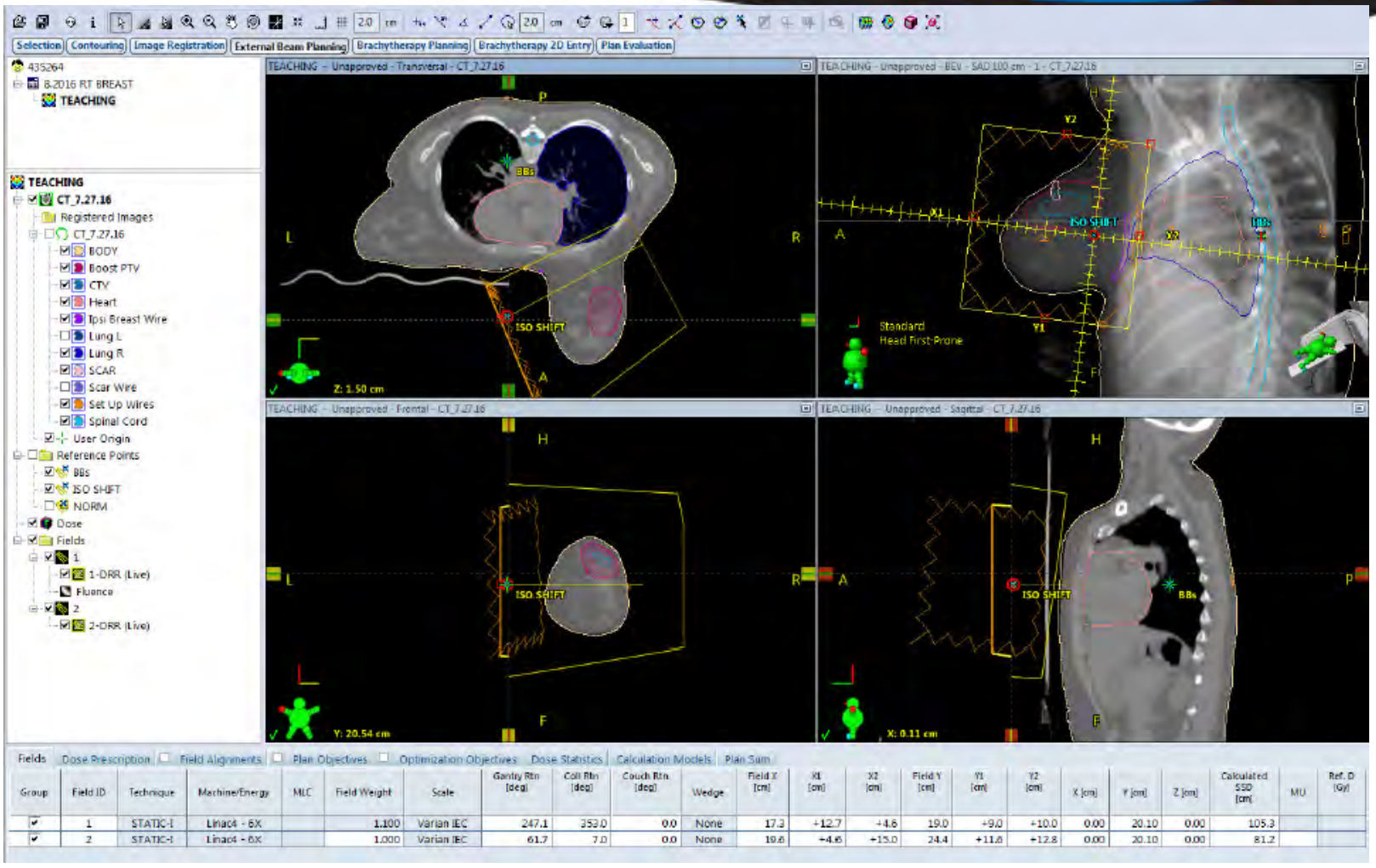
Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-E	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-E	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

ROSWELL PARK CANCER INSTITUTE



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

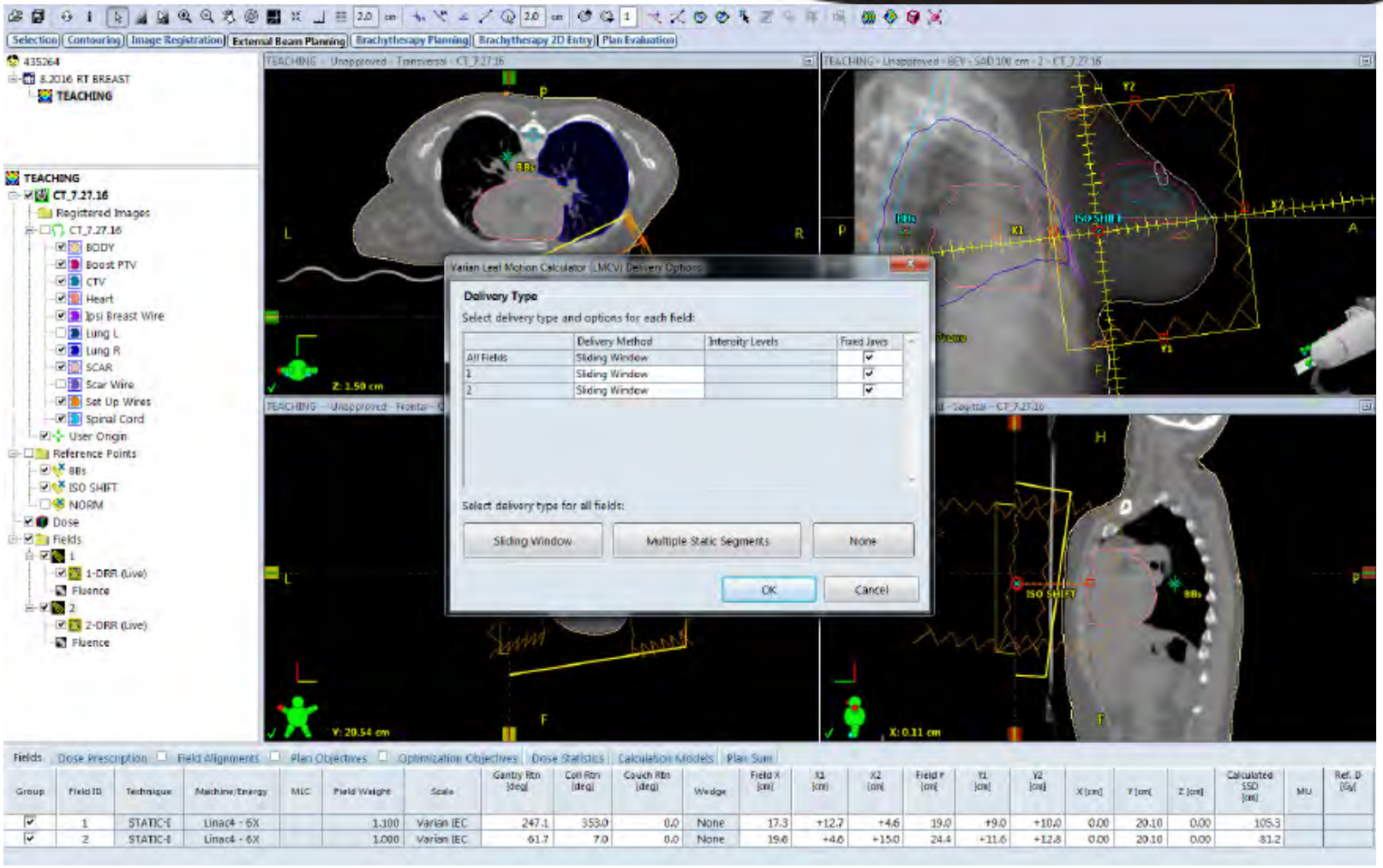
ROSWELL PARK CANCER INSTITUTE



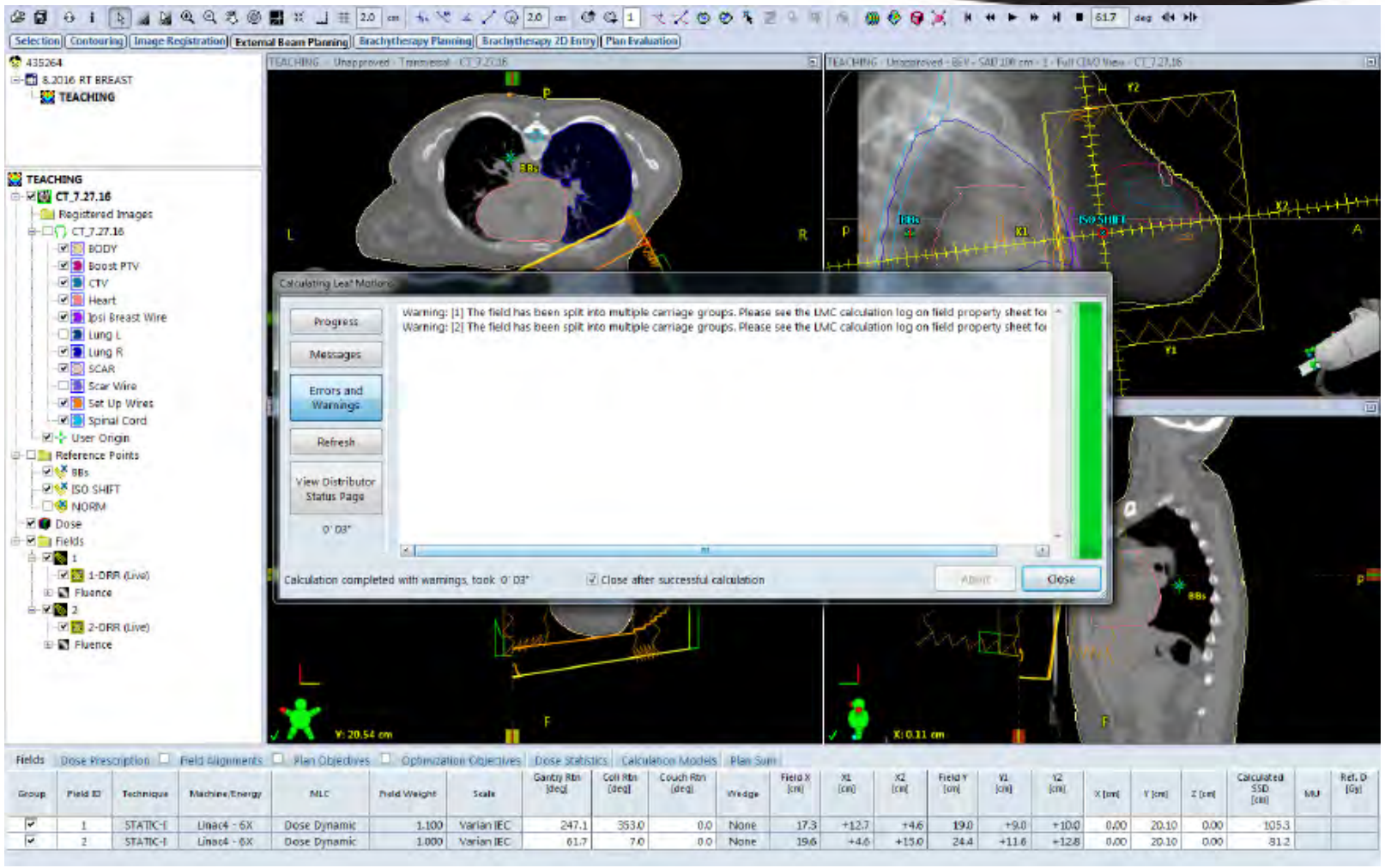
Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X		1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

ROSWELL PARK CANCER INSTITUTE

Run the LMC (not the DMC)

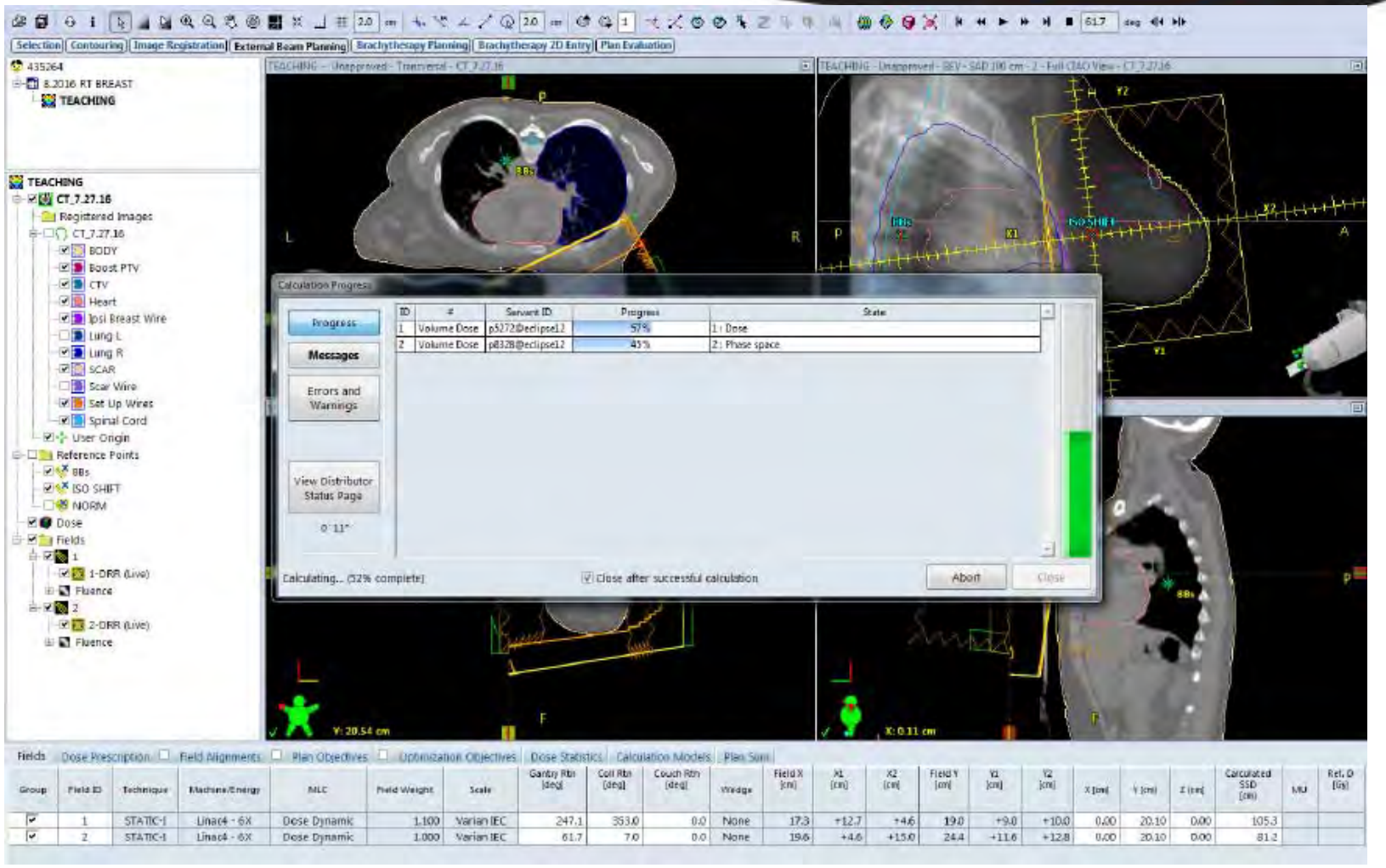


ROSWELL PARK CANCER INSTITUTE



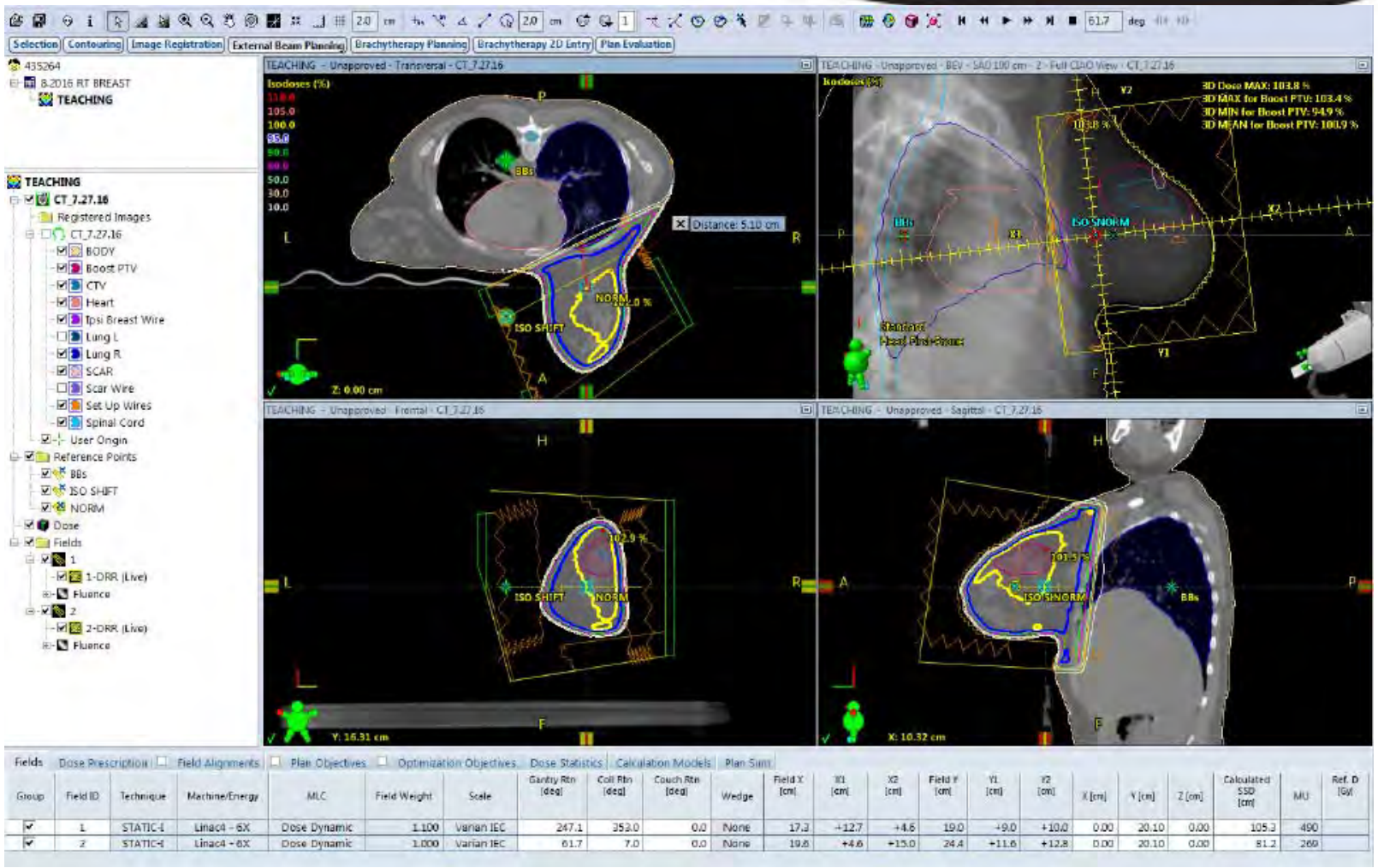
ROSWELL PARK CANCER INSTITUTE

Dose Calc all Planes



ROSWELL PARK CANCER INSTITUTE

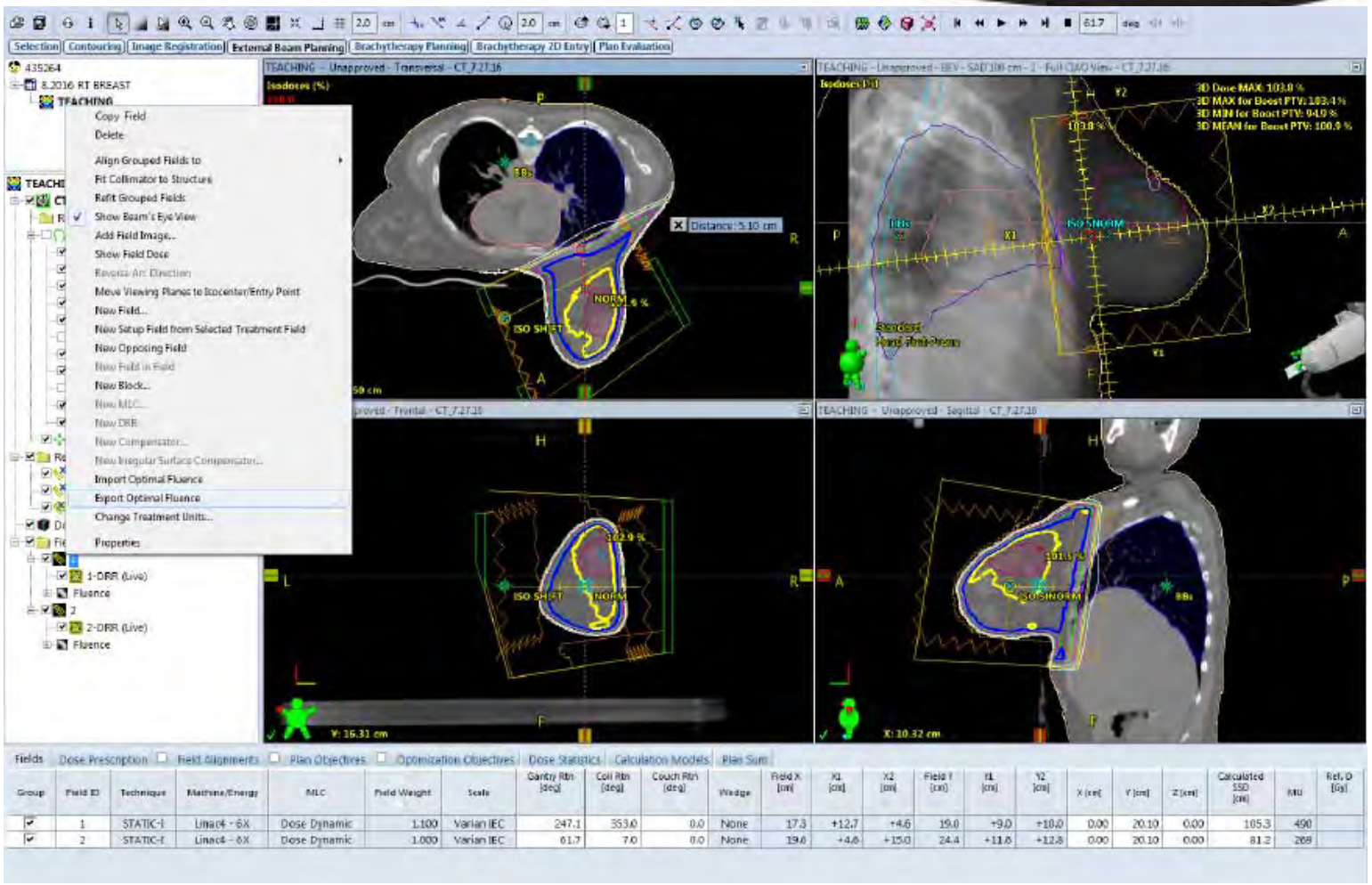
Set Normalization Point



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	490	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	269	

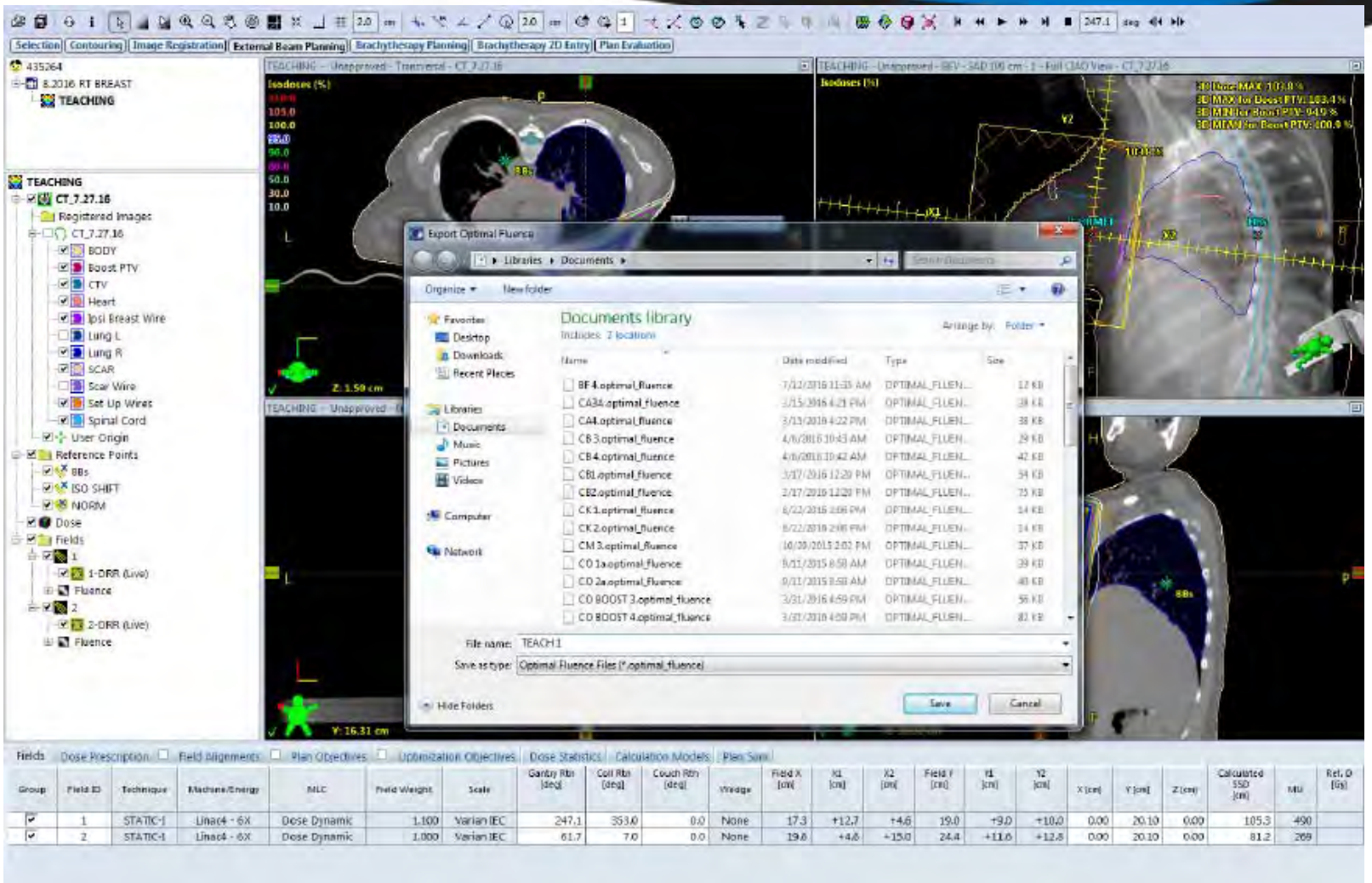
ROSWELL PARK CANCER INSTITUTE

Exporting Fluence

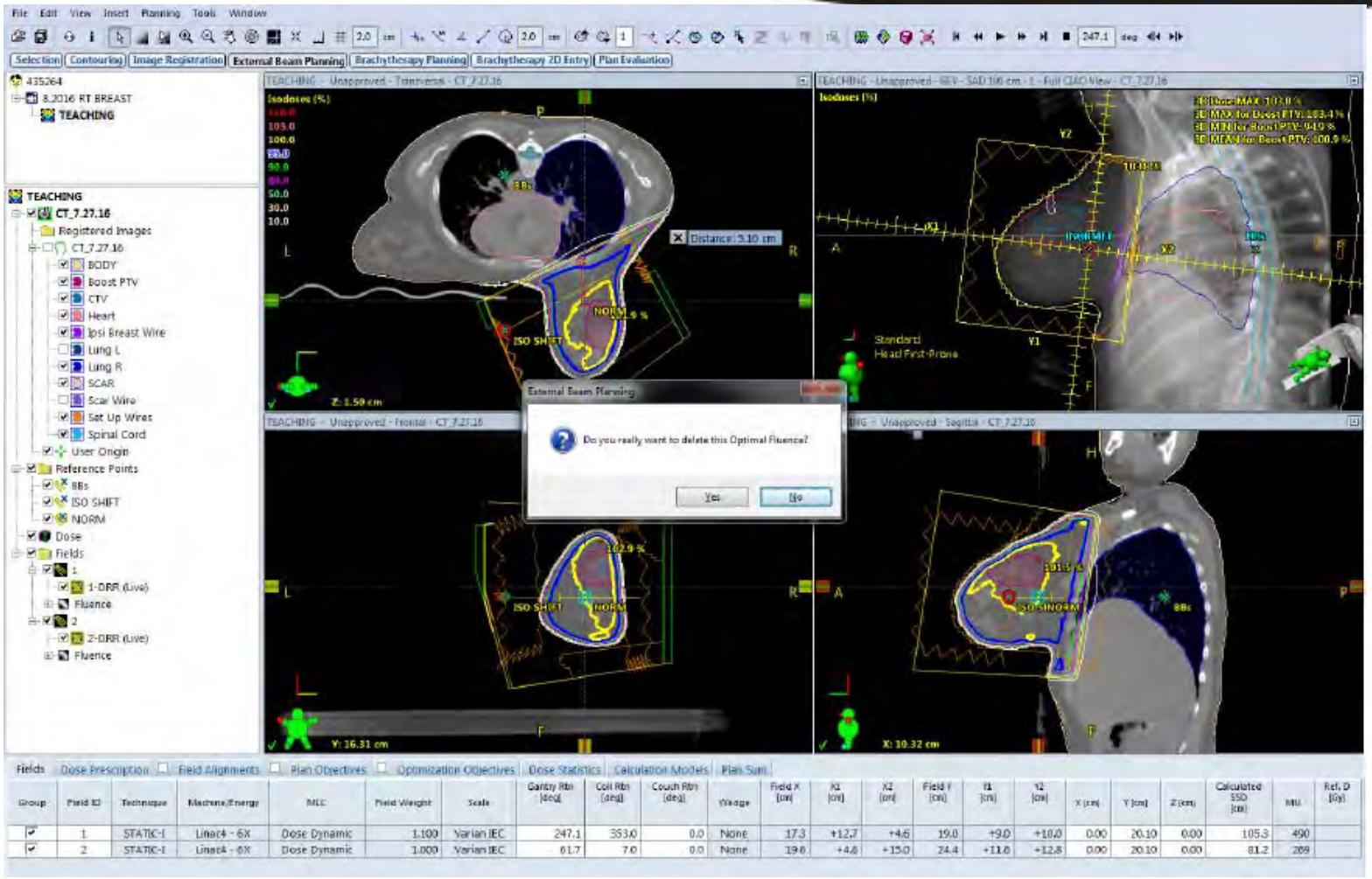


ROSWELL PARK CANCER INSTITUTE

Exporting Fluence



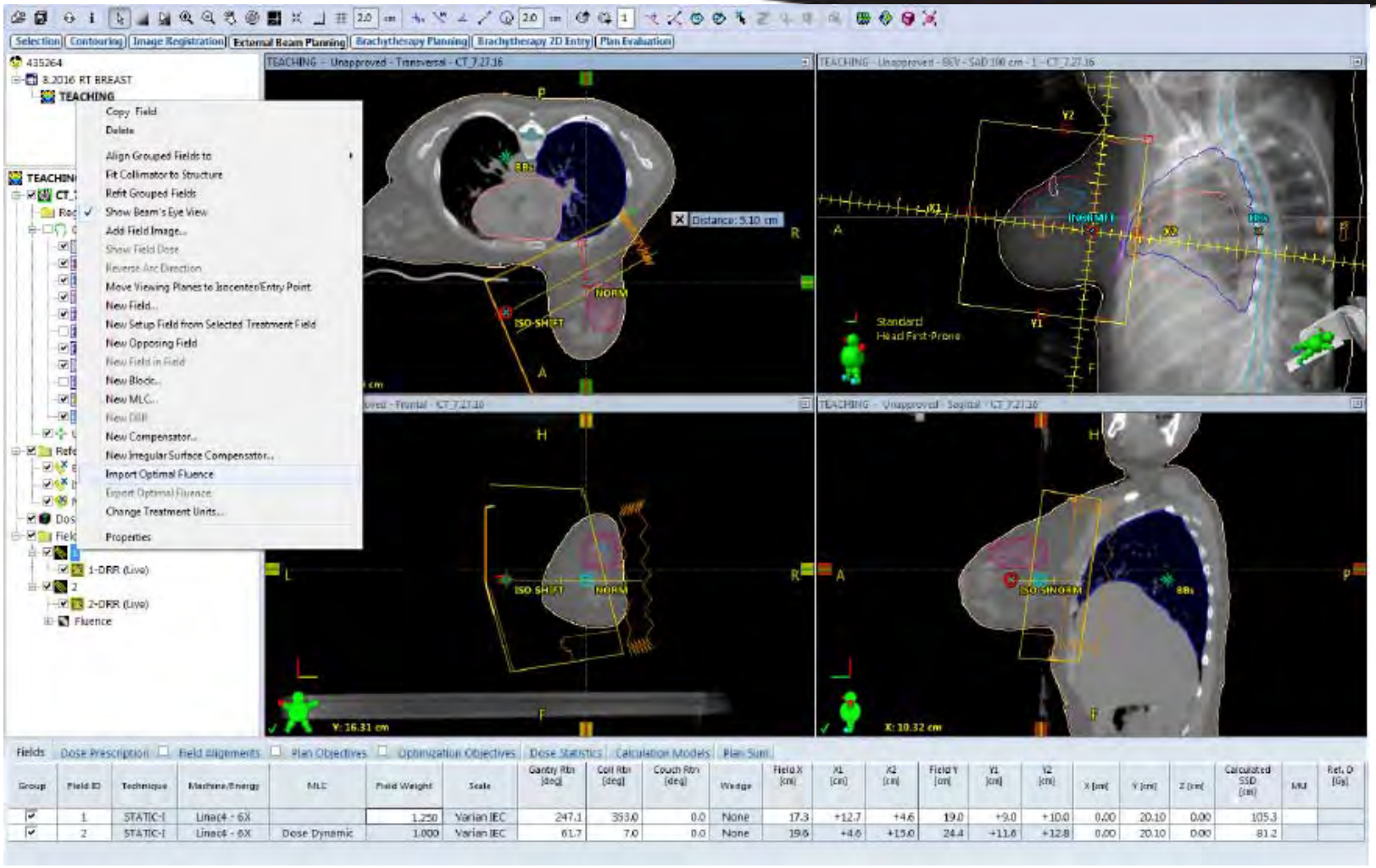
ROSWELL PARK CANCER INSTITUTE



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.100	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	490	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.8	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	269	

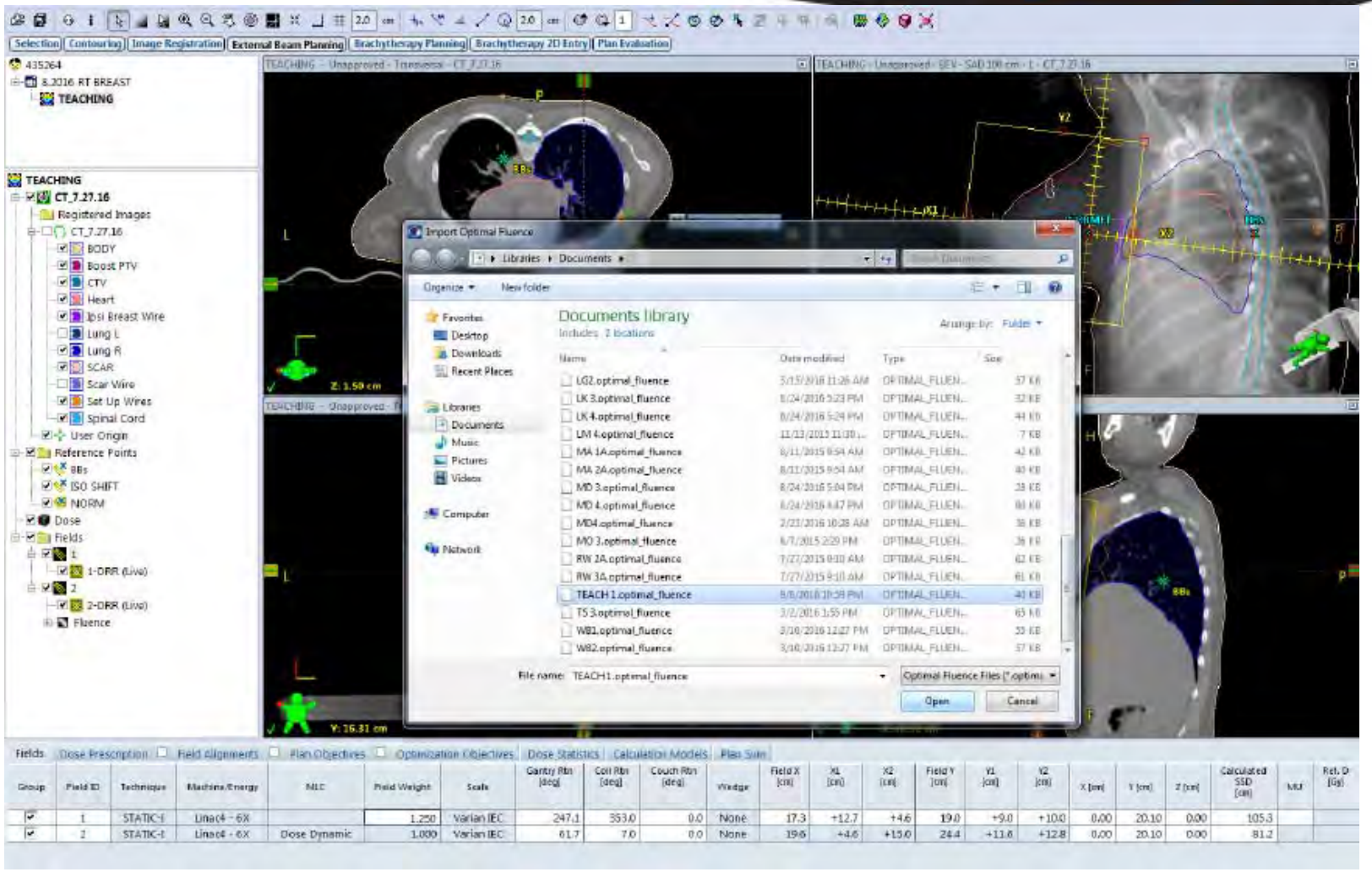
ROSWELL PARK CANCER INSTITUTE

Importing Fluence



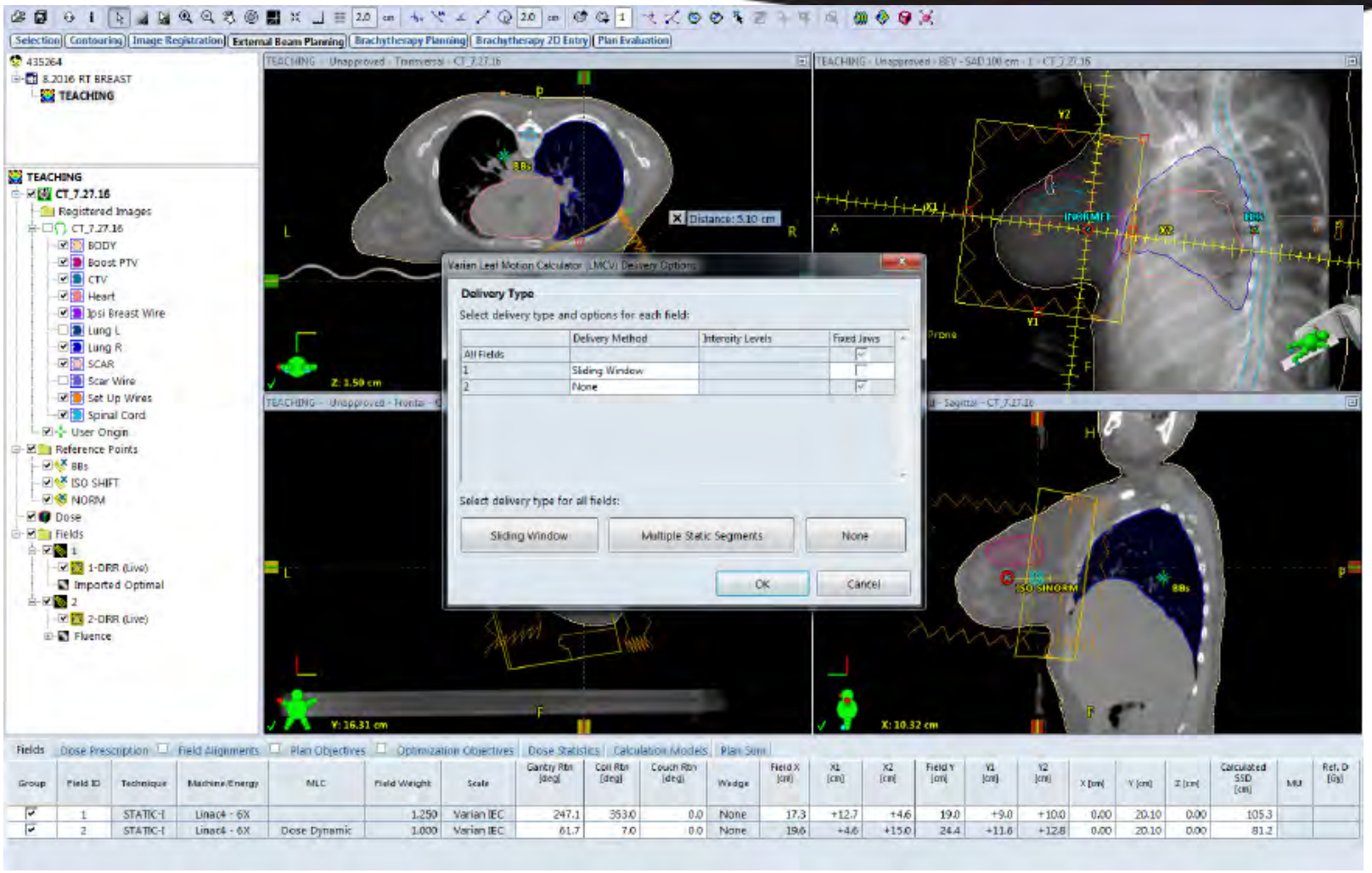
ROSWELL PARK CANCER INSTITUTE

Importing Fluence



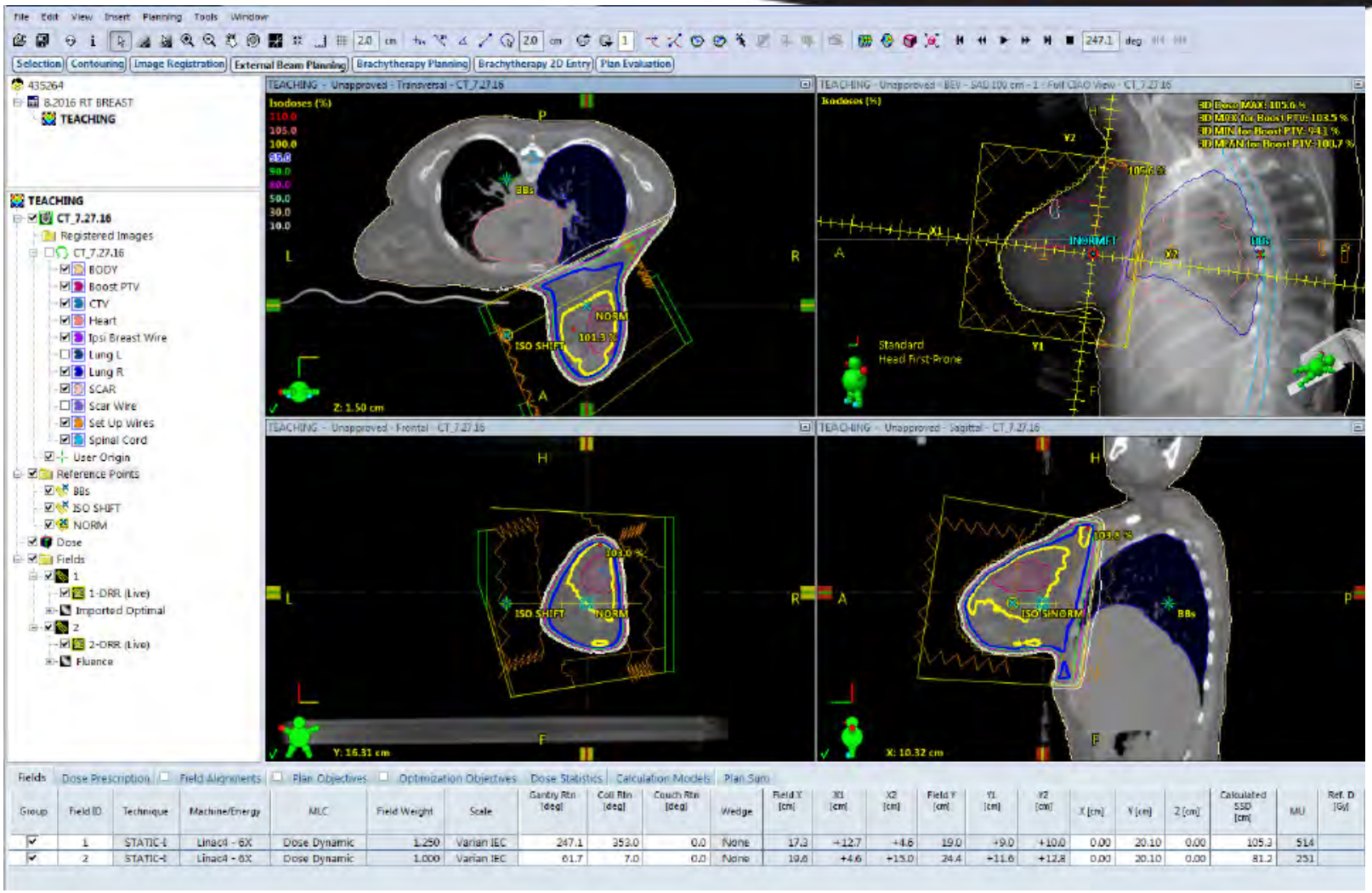
ROSWELL PARK CANCER INSTITUTE

Fix Your Jaws



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X		1.250	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3		
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2		

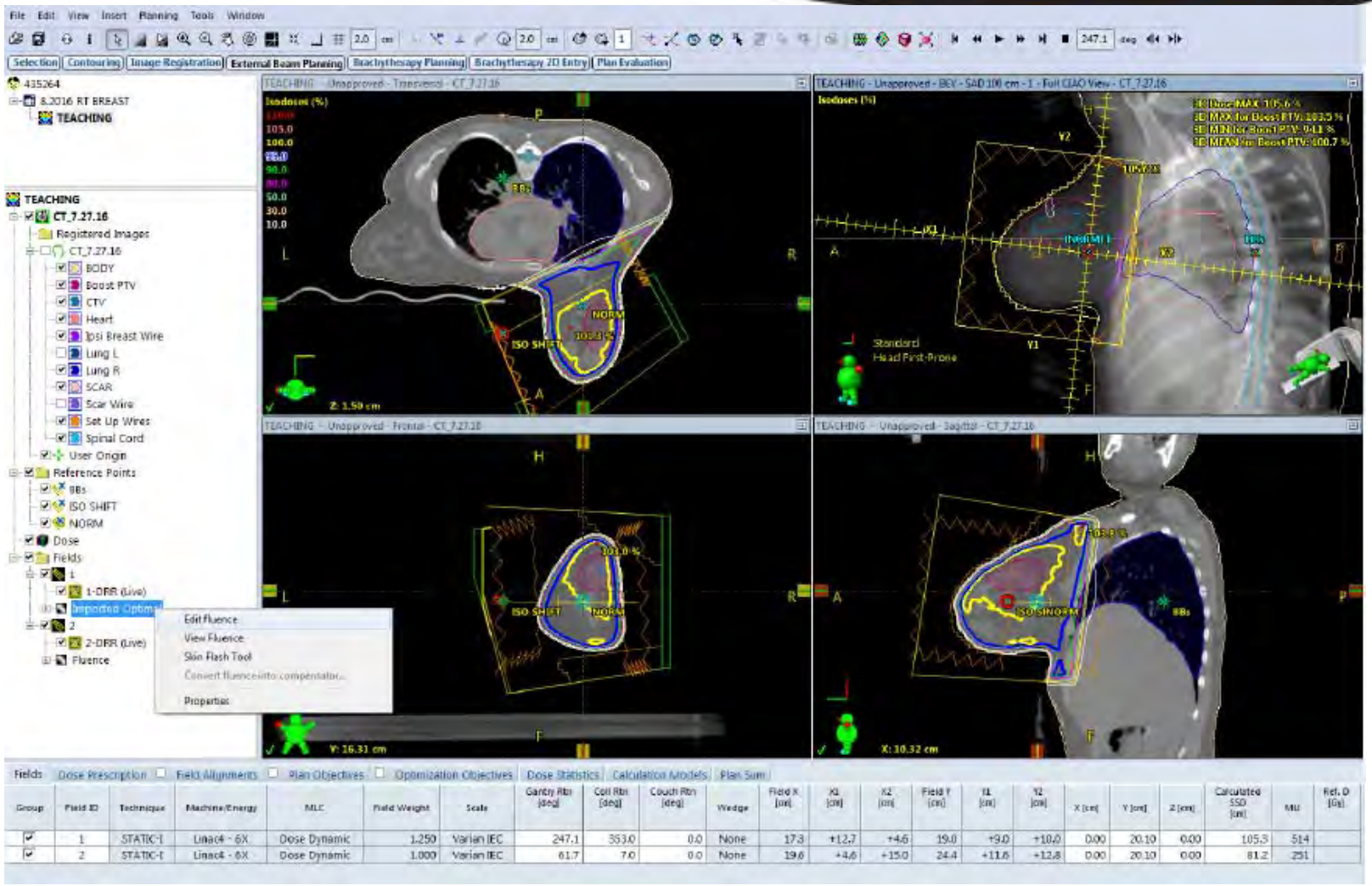
ROSWELL PARK CANCER INSTITUTE



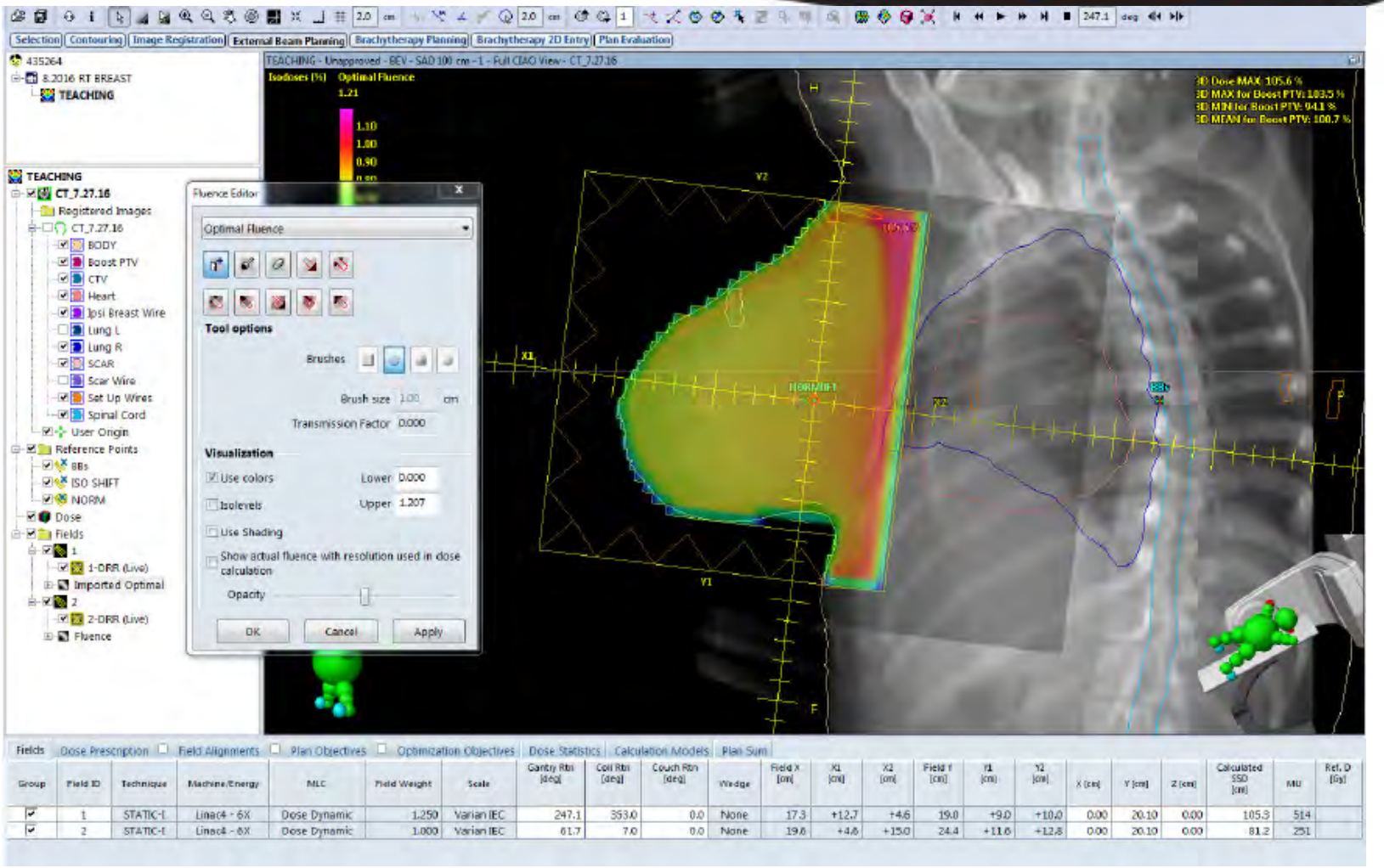
Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-E	Linac4 - 6X	Dose Dynamic	1.250	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	514	
☑	2	STATIC-E	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	251	

ROSWELL PARK CANCER INSTITUTE

Edit More Fluence



ROSWELL PARK CANCER INSTITUTE

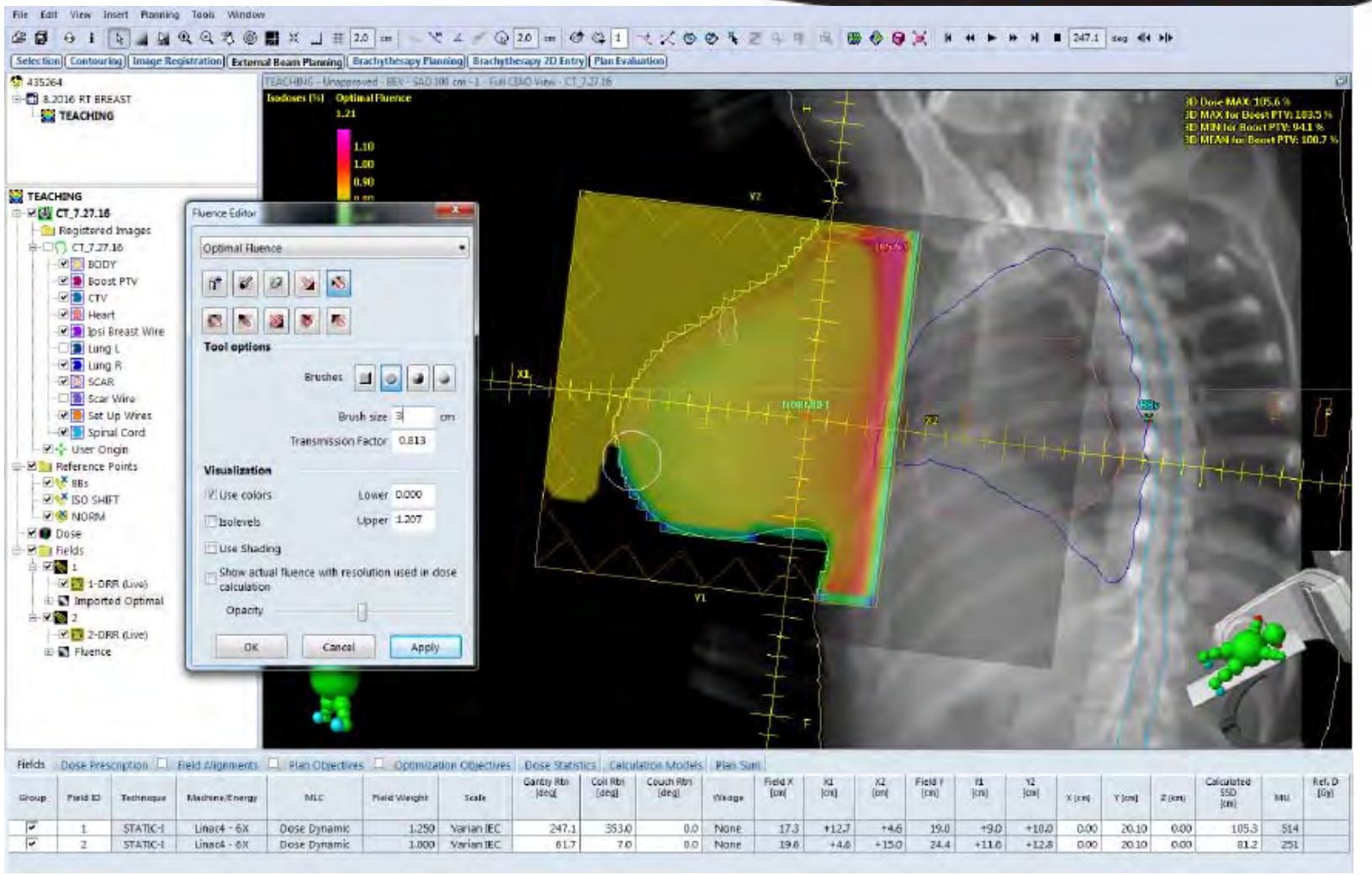


Fields | Dose Prescription | Field Alignments | Plan Objectives | Optimization Objectives | Dose Statistics | Calculation Models | Plan Sum

Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.250	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	514	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	251	

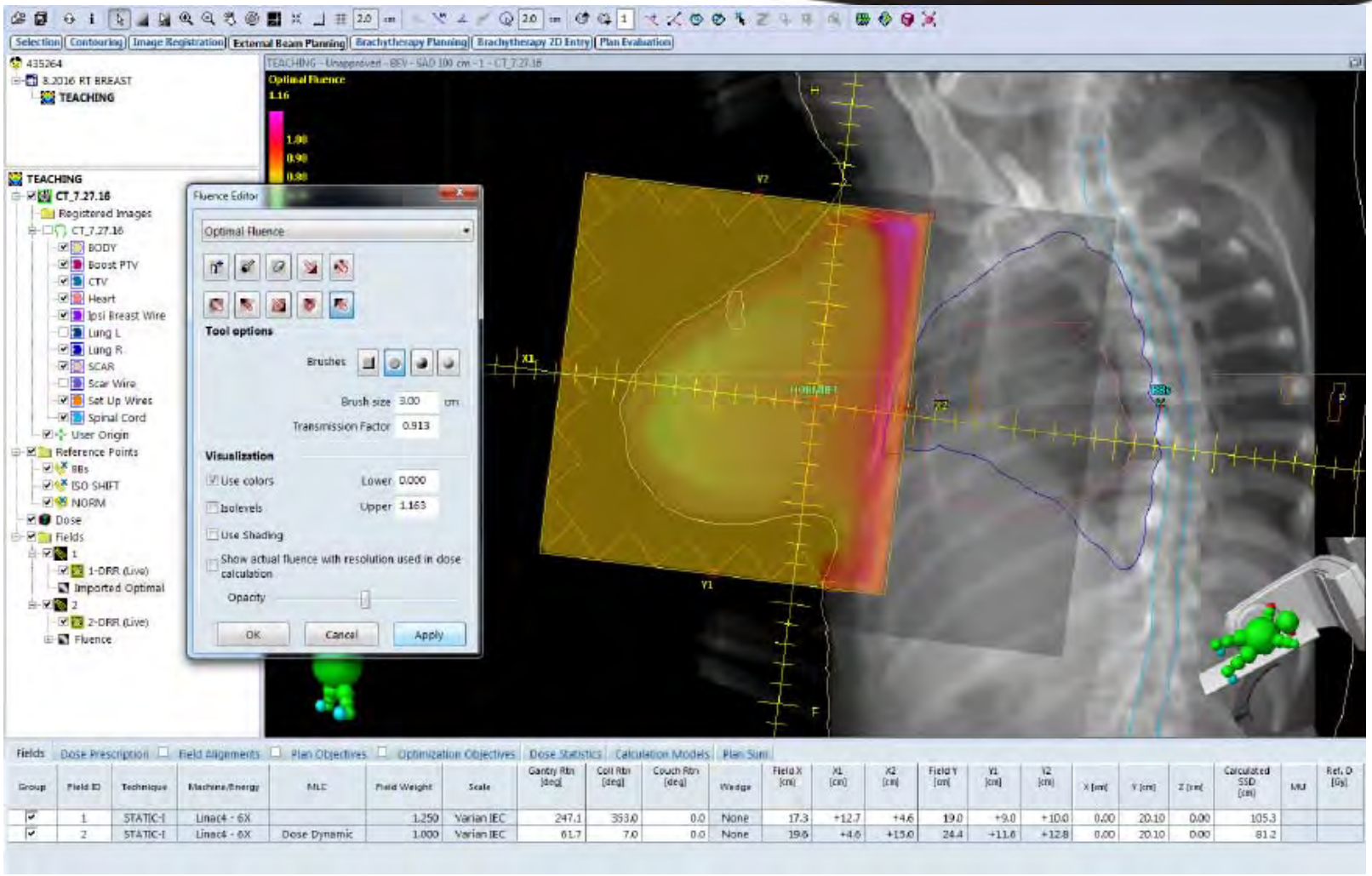
ROSWELL PARK CANCER INSTITUTE

Edit Fluence - Make it Flashy

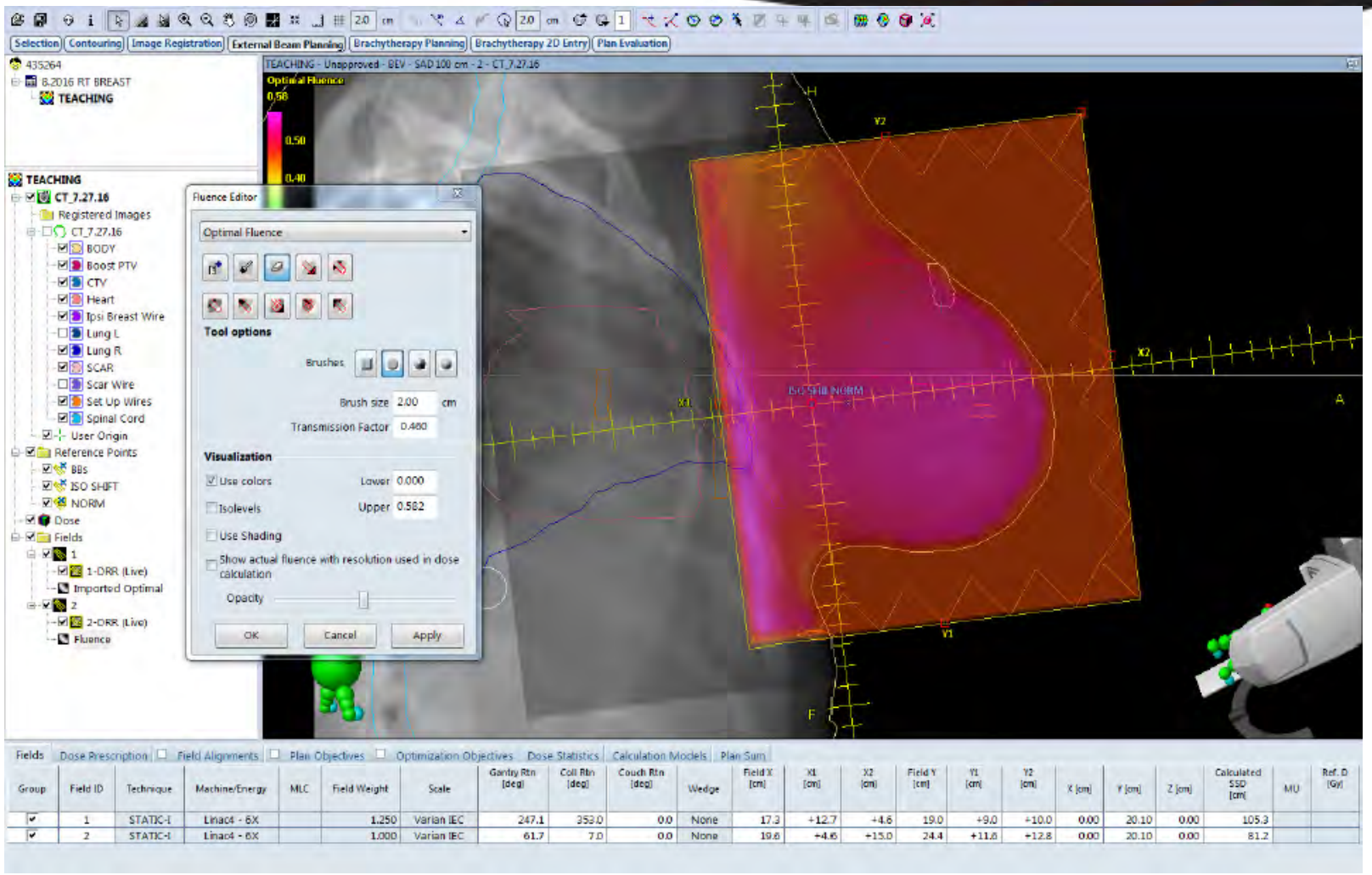


ROSWELL PARK CANCER INSTITUTE

Edit Fluence - Fix the Edges

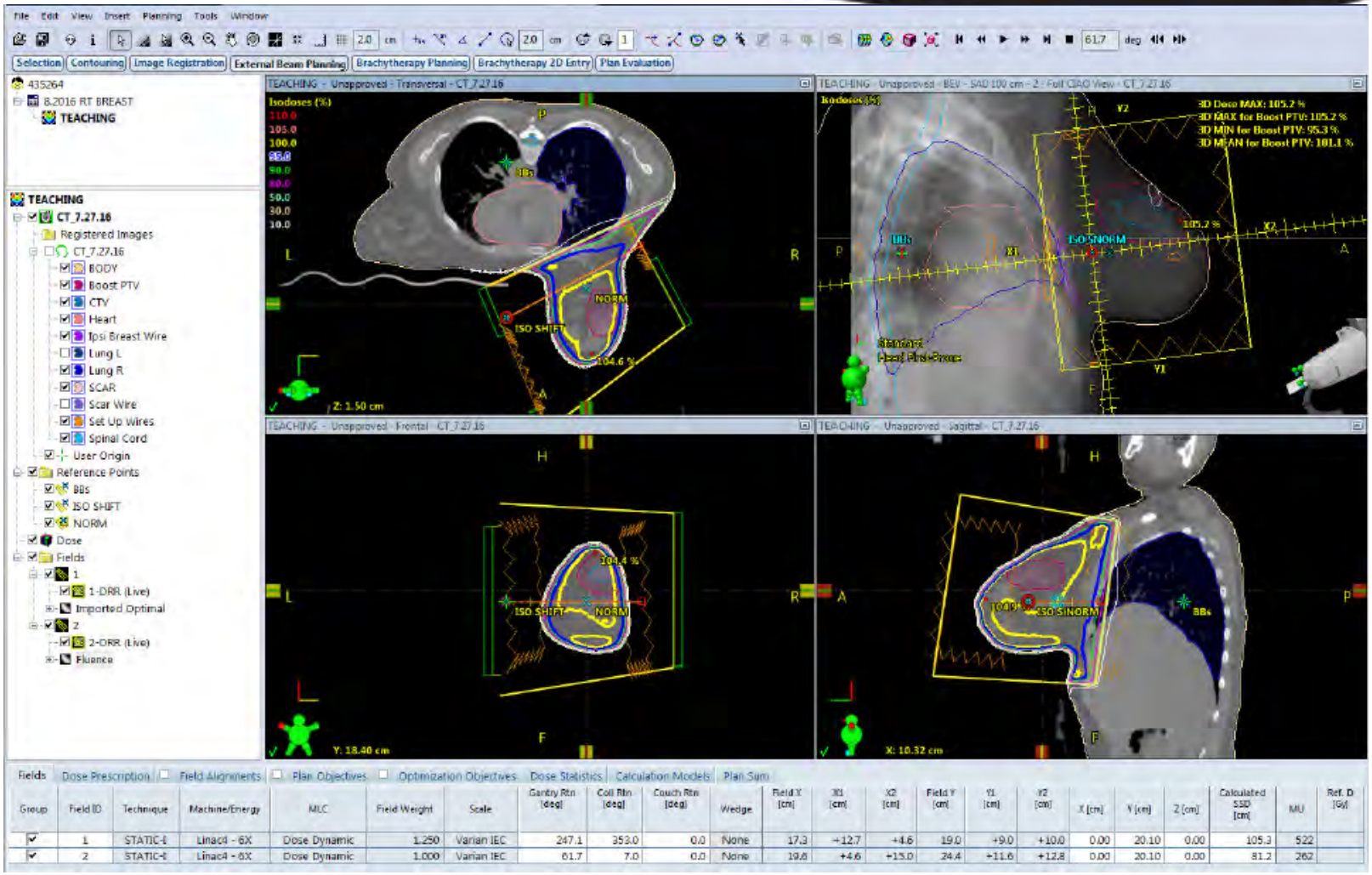


ROSWELL PARK CANCER INSTITUTE



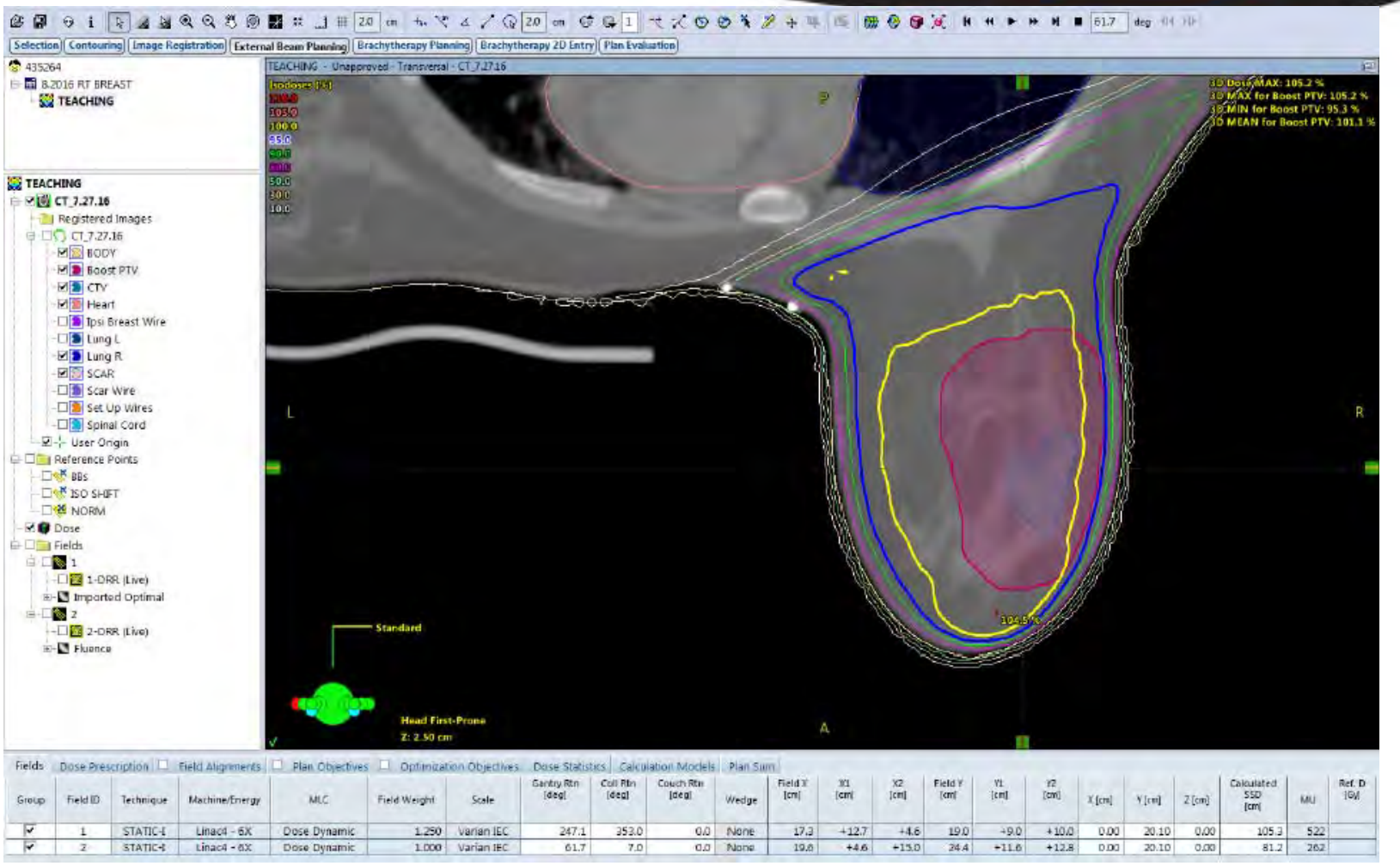
ROSWELL PARK CANCER INSTITUTE

Result of Dose Calculation



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.250	Varian IEC	247.1	353.0	0.0	None	17.3	-12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	522	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	262	

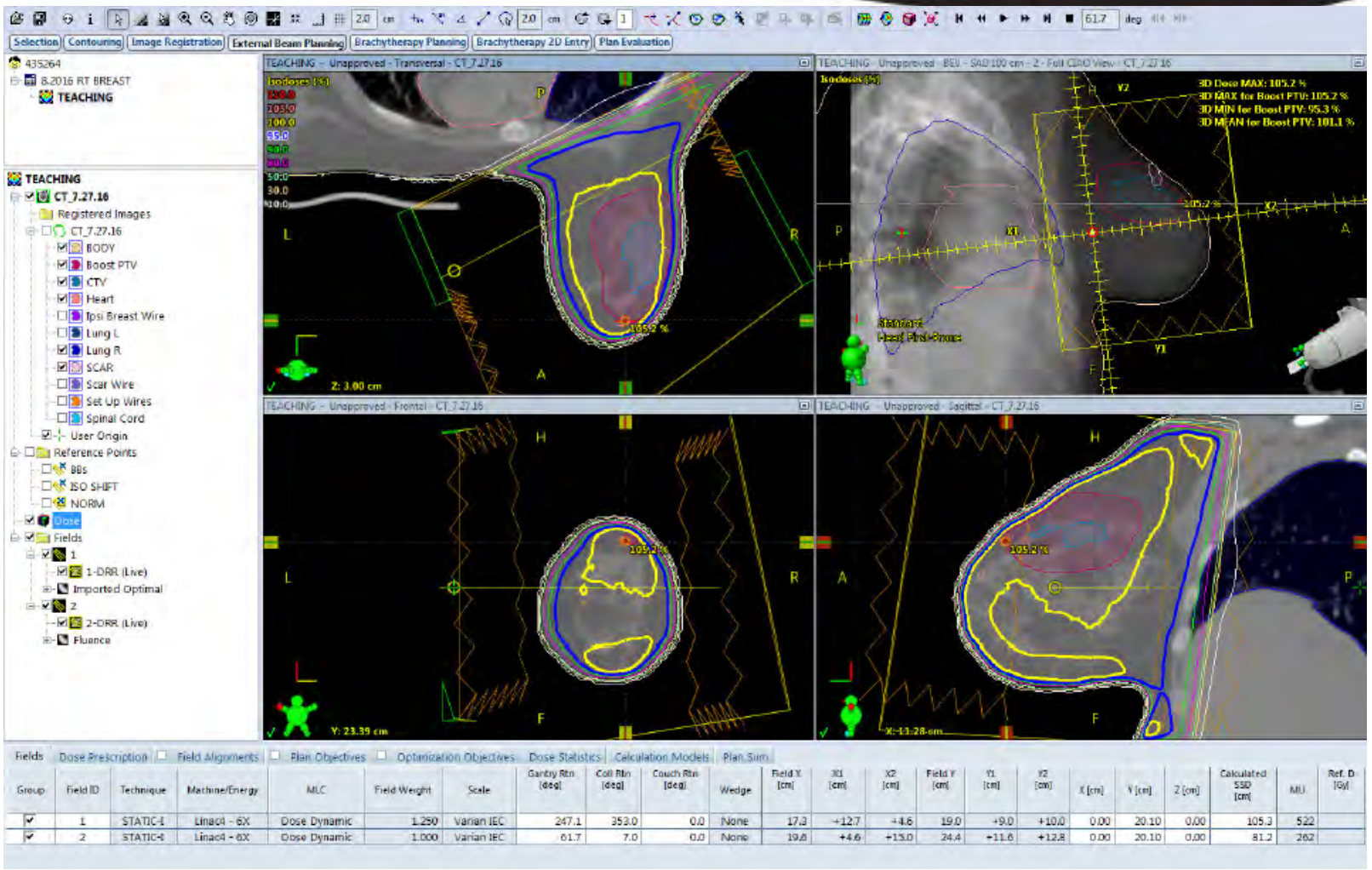
ROSWELL PARK CANCER INSTITUTE



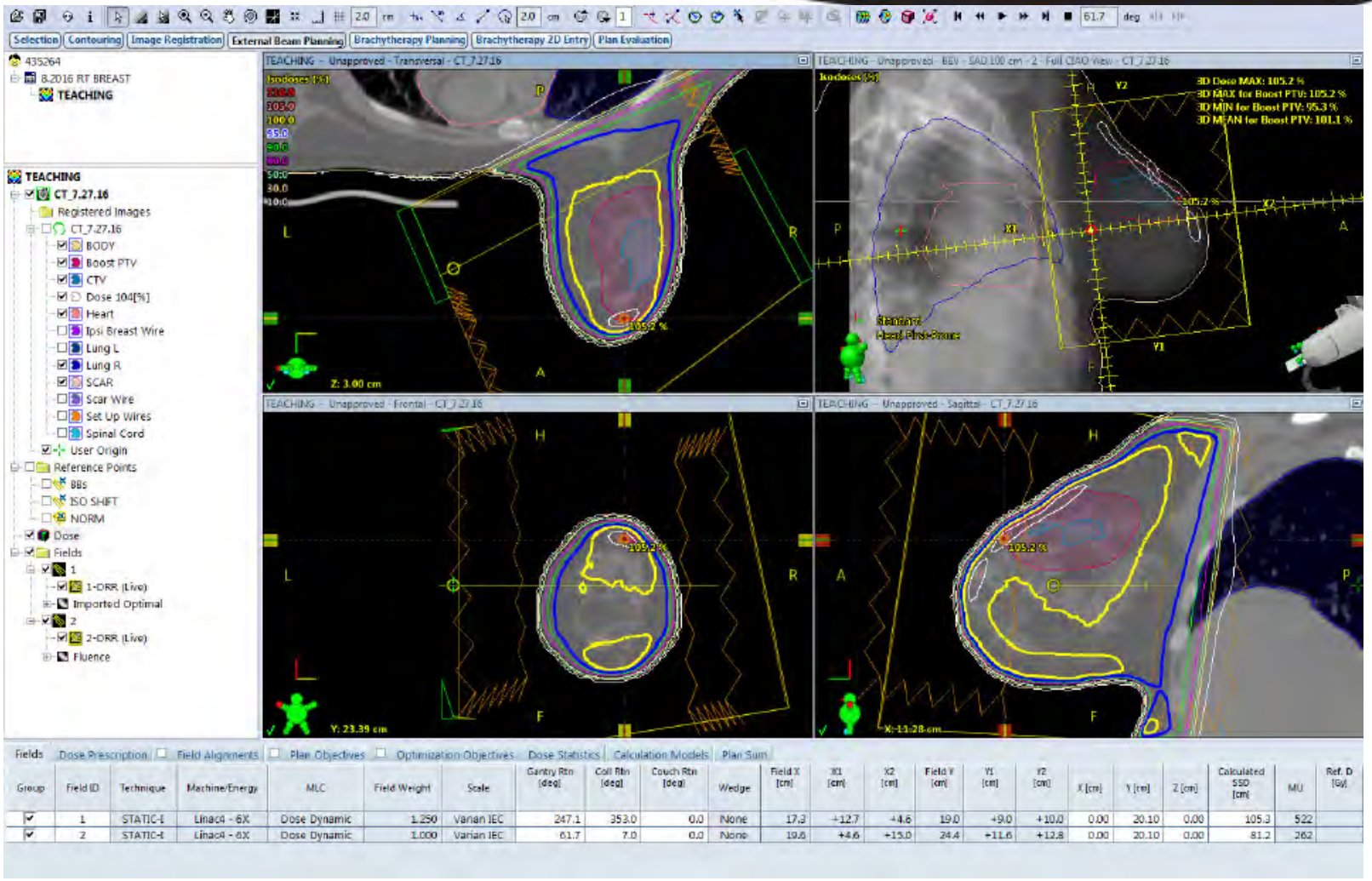
Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-I	Linac4 - 6X	Dose Dynamic	1.250	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	522	
☑	2	STATIC-I	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	262	

ROSWELL PARK CANCER INSTITUTE

Find the Hotspots



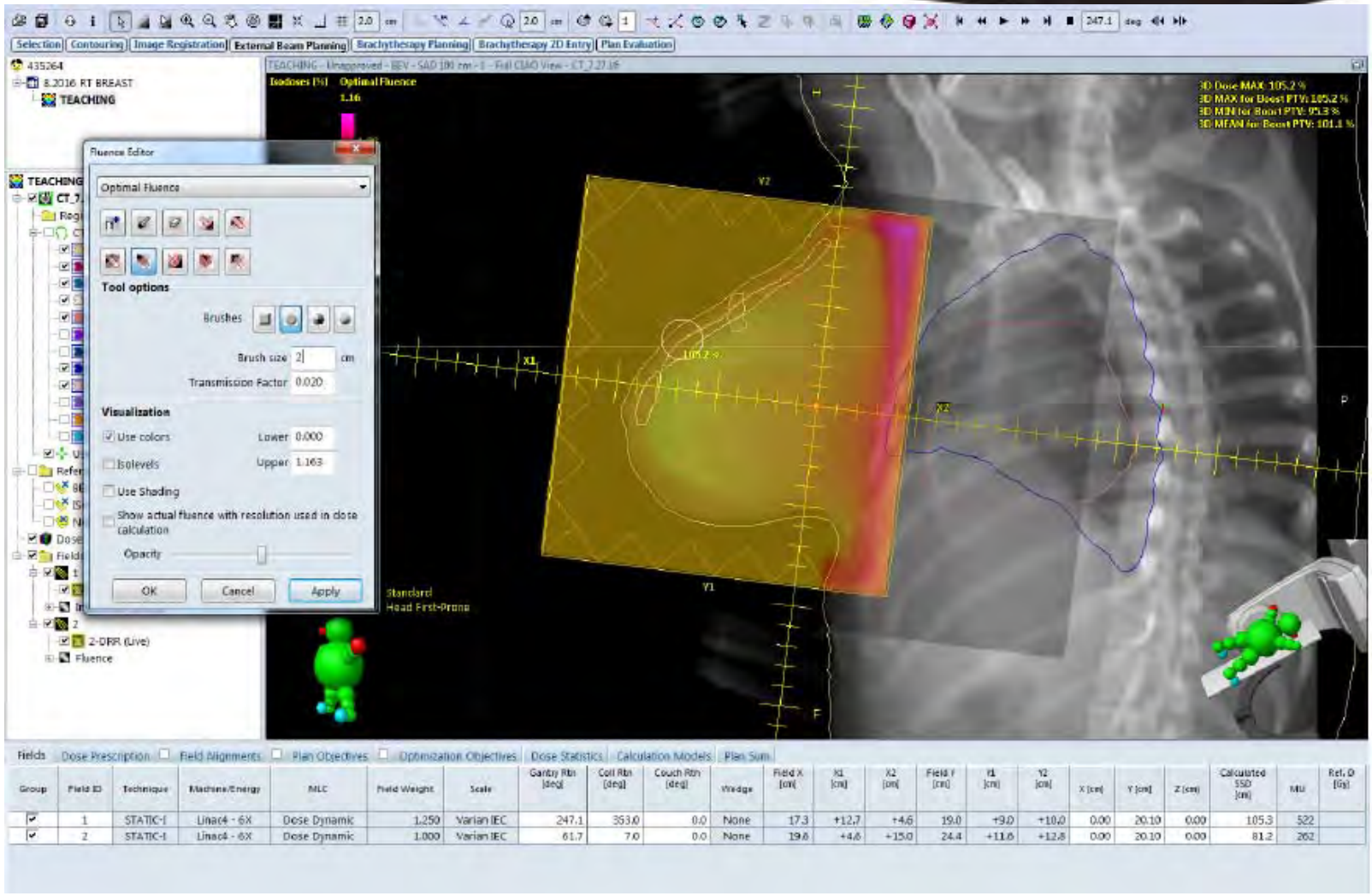
ROSWELL PARK CANCER INSTITUTE



Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [Gy]
☑	1	STATIC-E	Linac4 - 6X	Dose Dynamic	1.250	Varian IEC	247.1	353.0	0.0	None	17.3	+12.7	+4.6	19.0	+9.0	+10.0	0.00	20.10	0.00	105.3	522	
☑	2	STATIC-E	Linac4 - 6X	Dose Dynamic	1.000	Varian IEC	61.7	7.0	0.0	None	19.6	+4.6	+15.0	24.4	+11.6	+12.8	0.00	20.10	0.00	81.2	262	

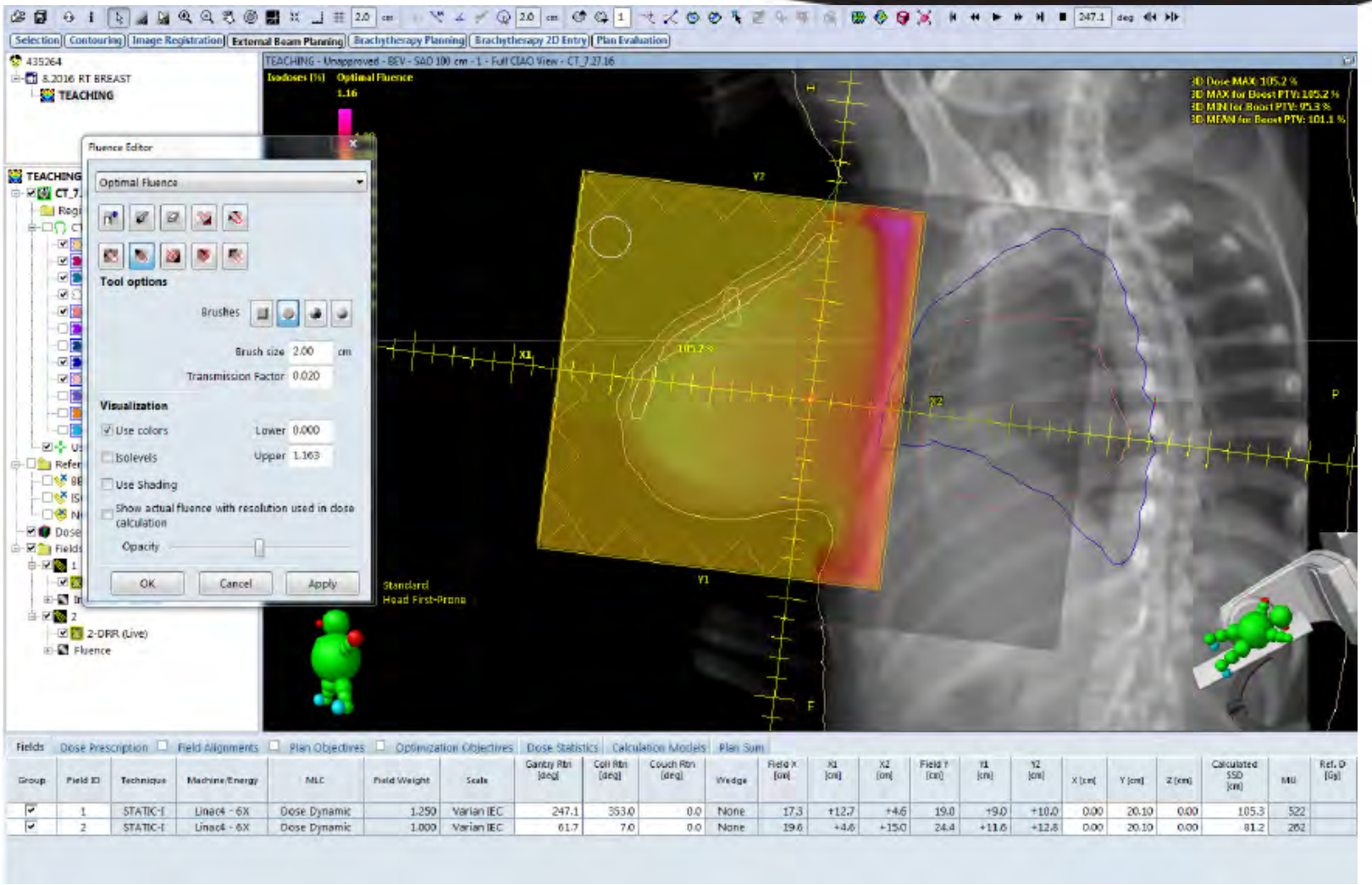
ROSWELL PARK CANCER INSTITUTE

Edit Fluence - Paint down Hot

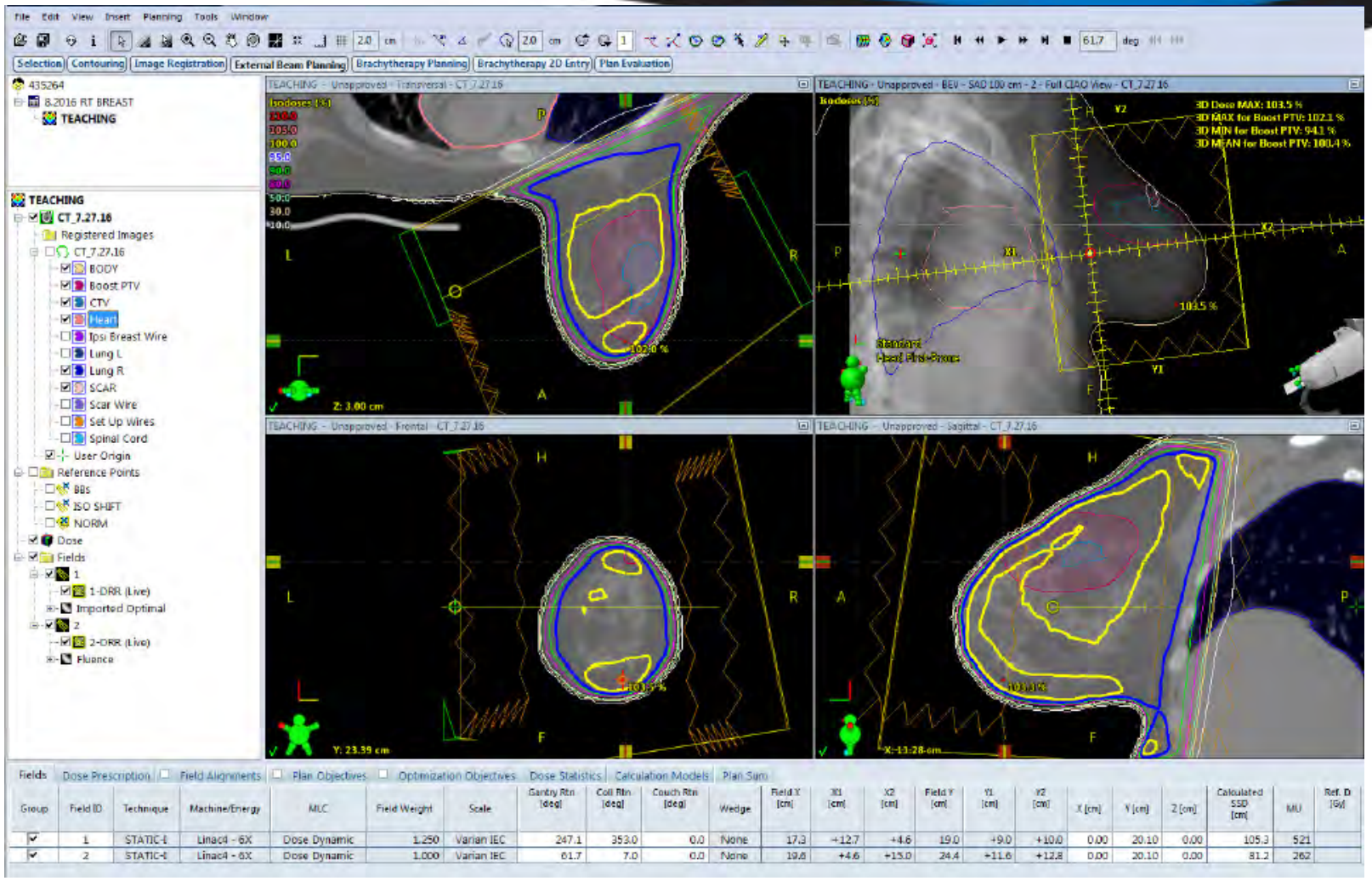


ROSWELL PARK CANCER INSTITUTE

Edit Fluence - Paint down Hot

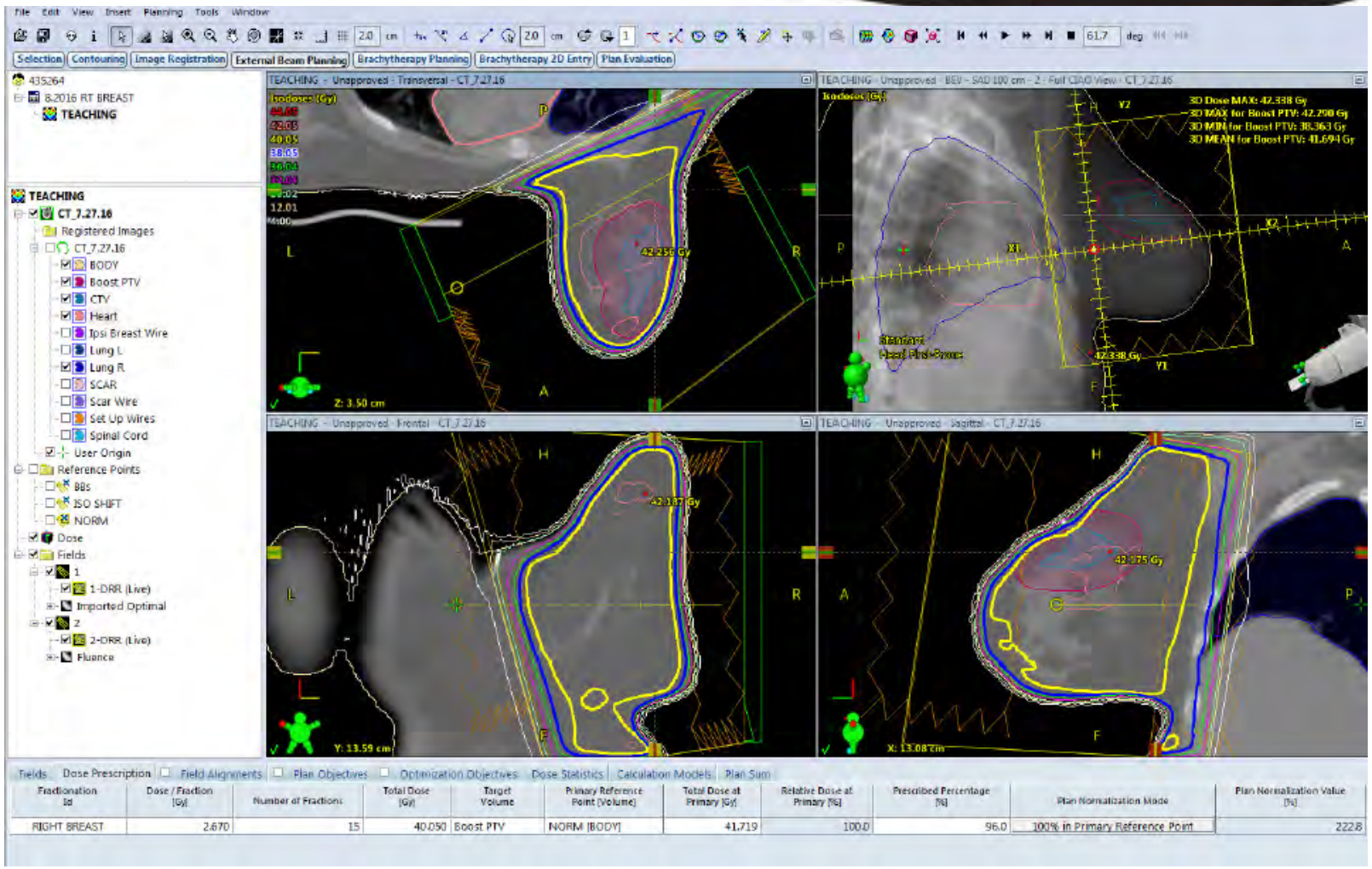


Superficial Dose - Room to Prescribe Down



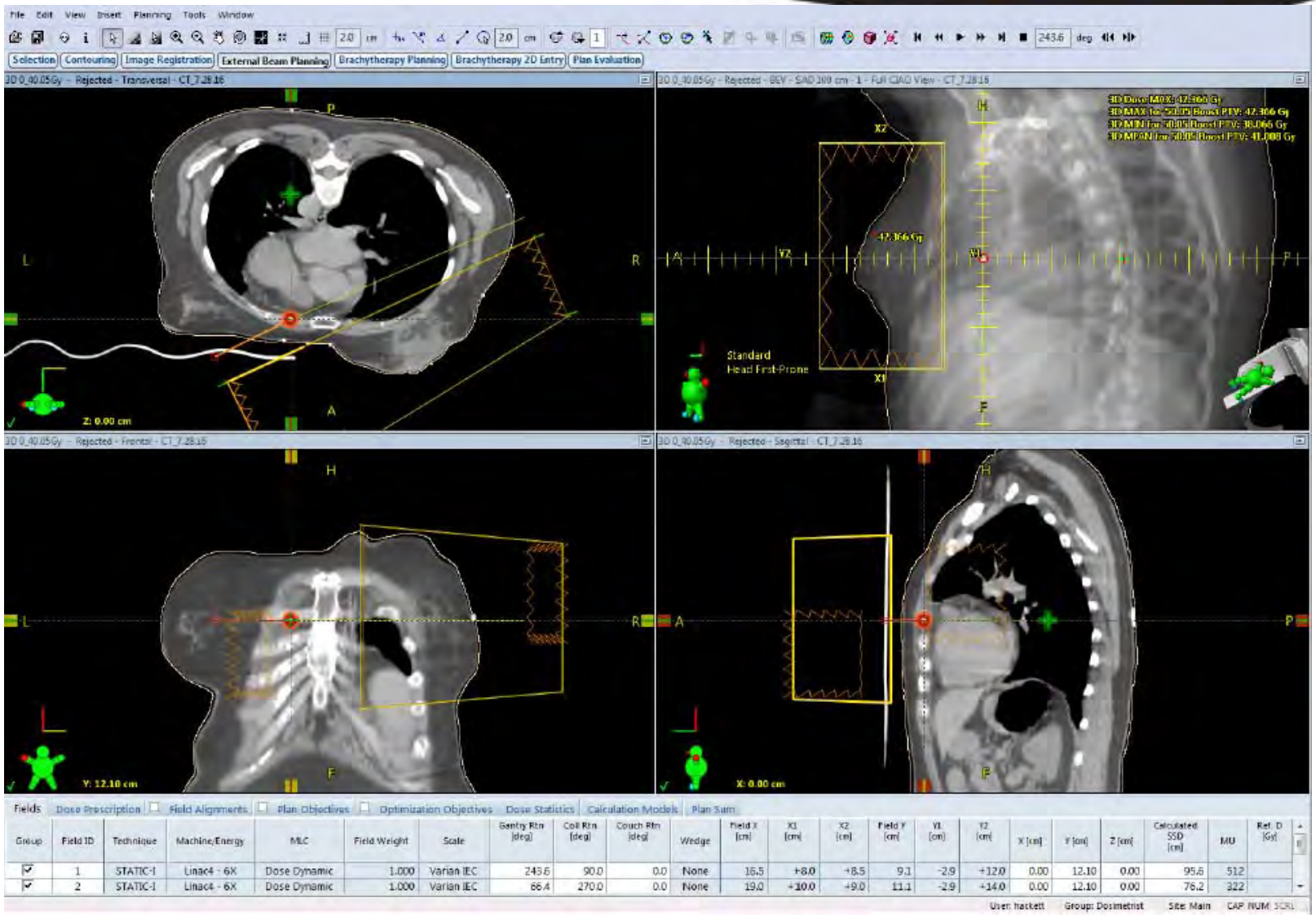
ROSWELL PARK CANCER INSTITUTE

ta da…..



ROSWELL PARK CANCER INSTITUTE

Unusual Case Example



ROSWELL PARK CANCER INSTITUTE

THANK YOU!

- A symposium? Cool!
- A death panel? Even cooler!
- Invited guest speaker? Outstanding!

Questions? Complaints? rachel.hackett@roswellpark.org