



A Control System for the ESRF Synchrotron Radiation Therapy Clinical Trials

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c Univ Grenoble 1, F-38041 Grenoble 9, France





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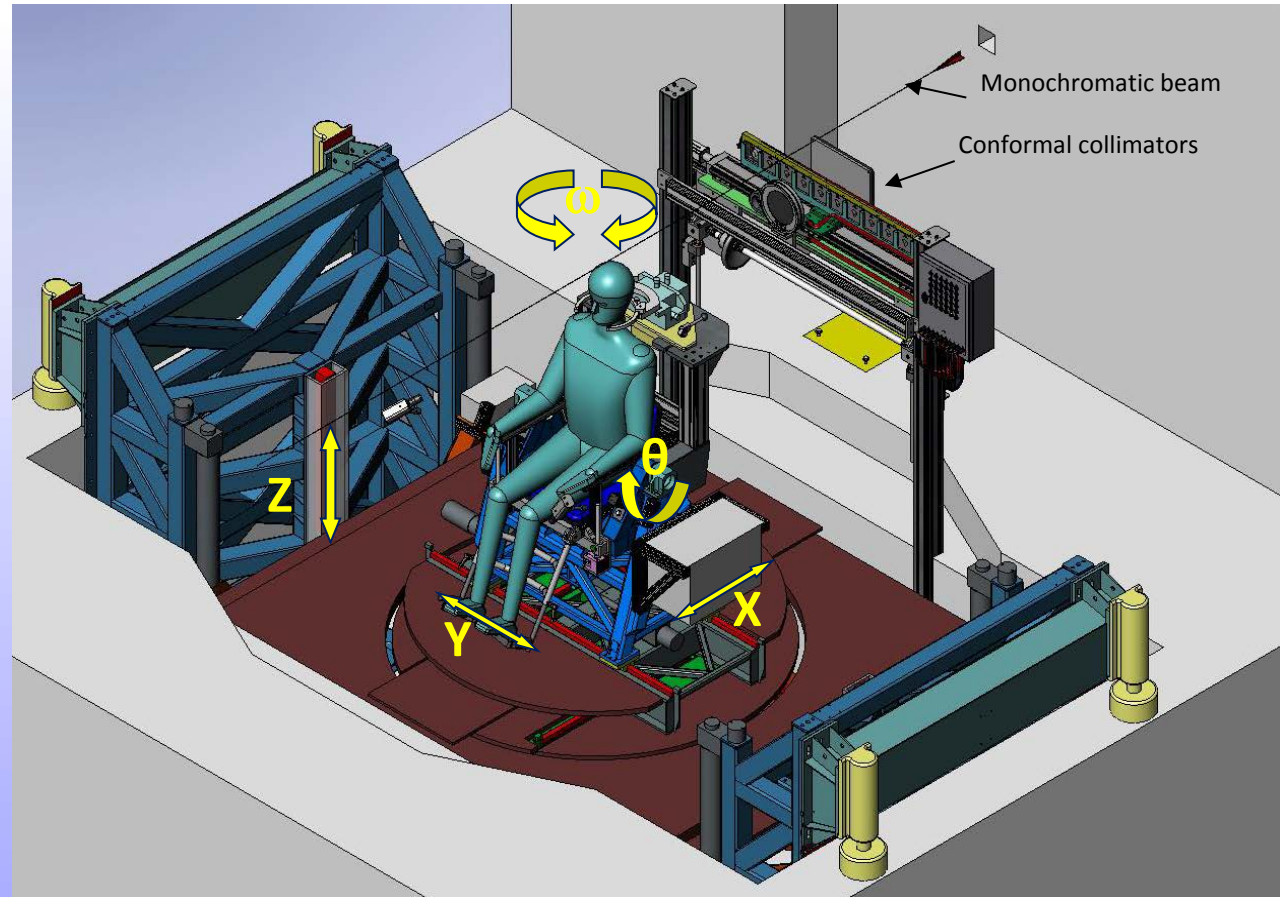
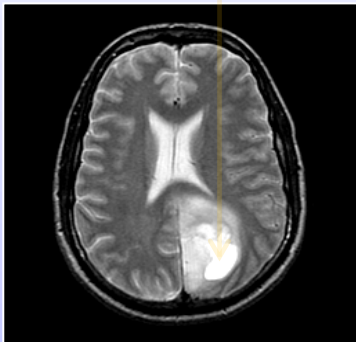
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Principe of SSRT irradiation

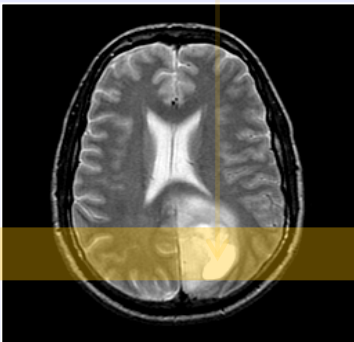
Cerebral tumour loaded
with high-Z contrast agent
(Iodine)



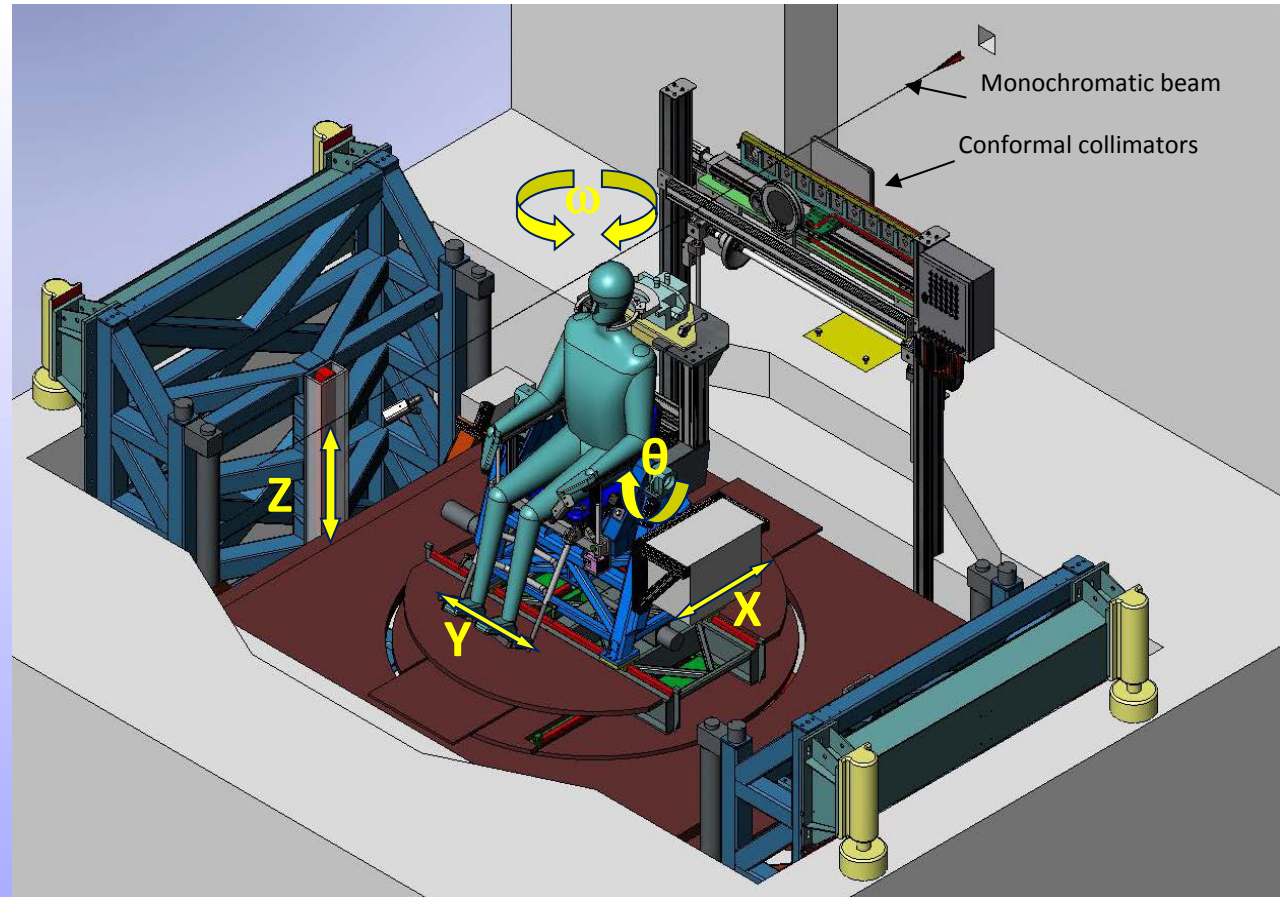
X-ray monochromatic
Beam tuned to Iodine K-edge

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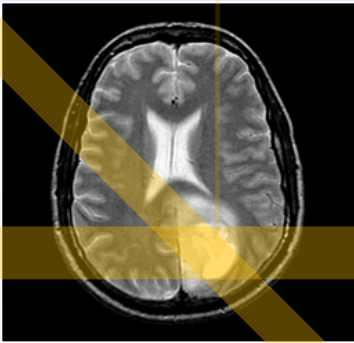


X-ray monochromatic
Beam tuned to Iodine K-edge

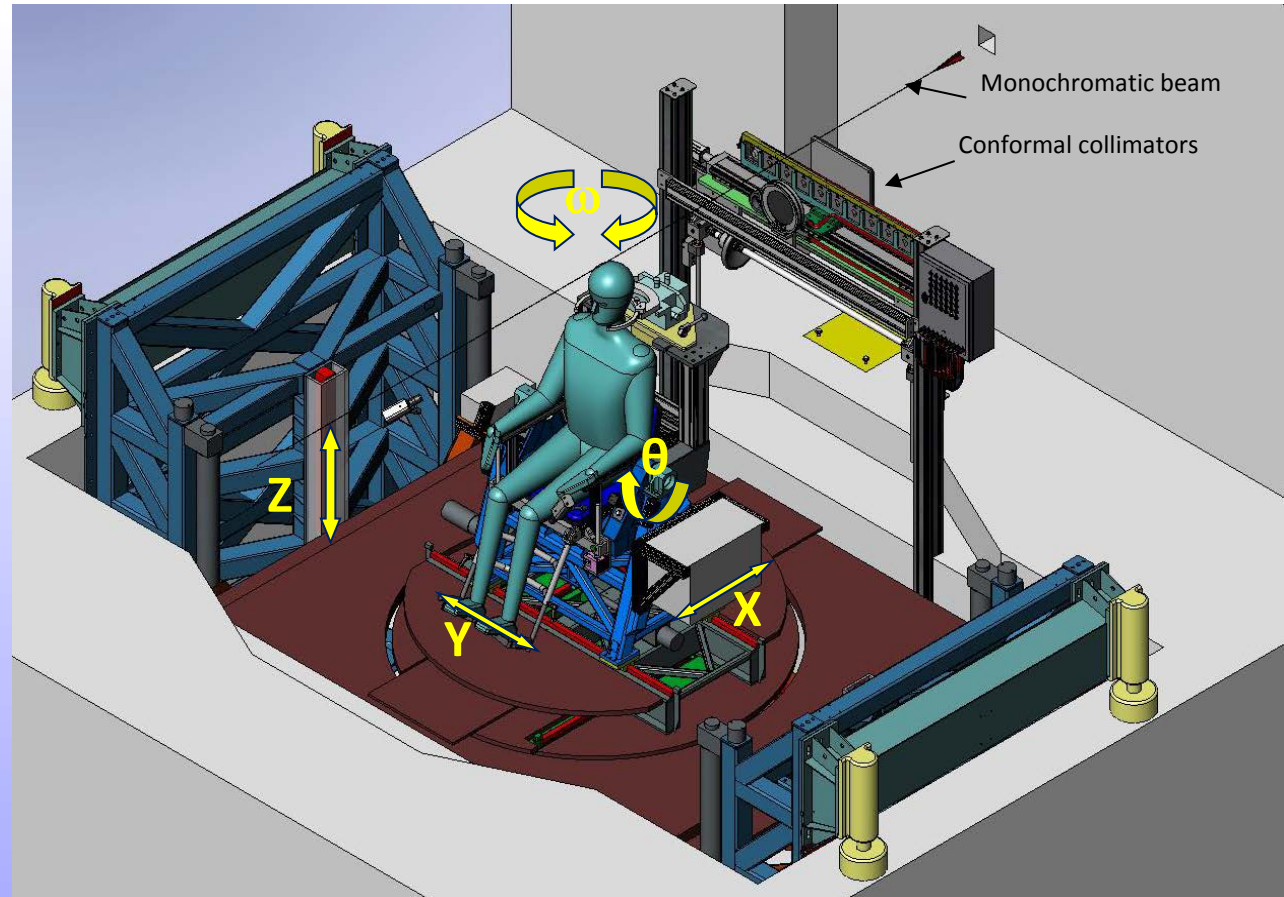


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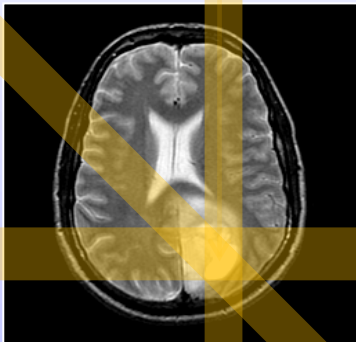
X-ray monochromatic
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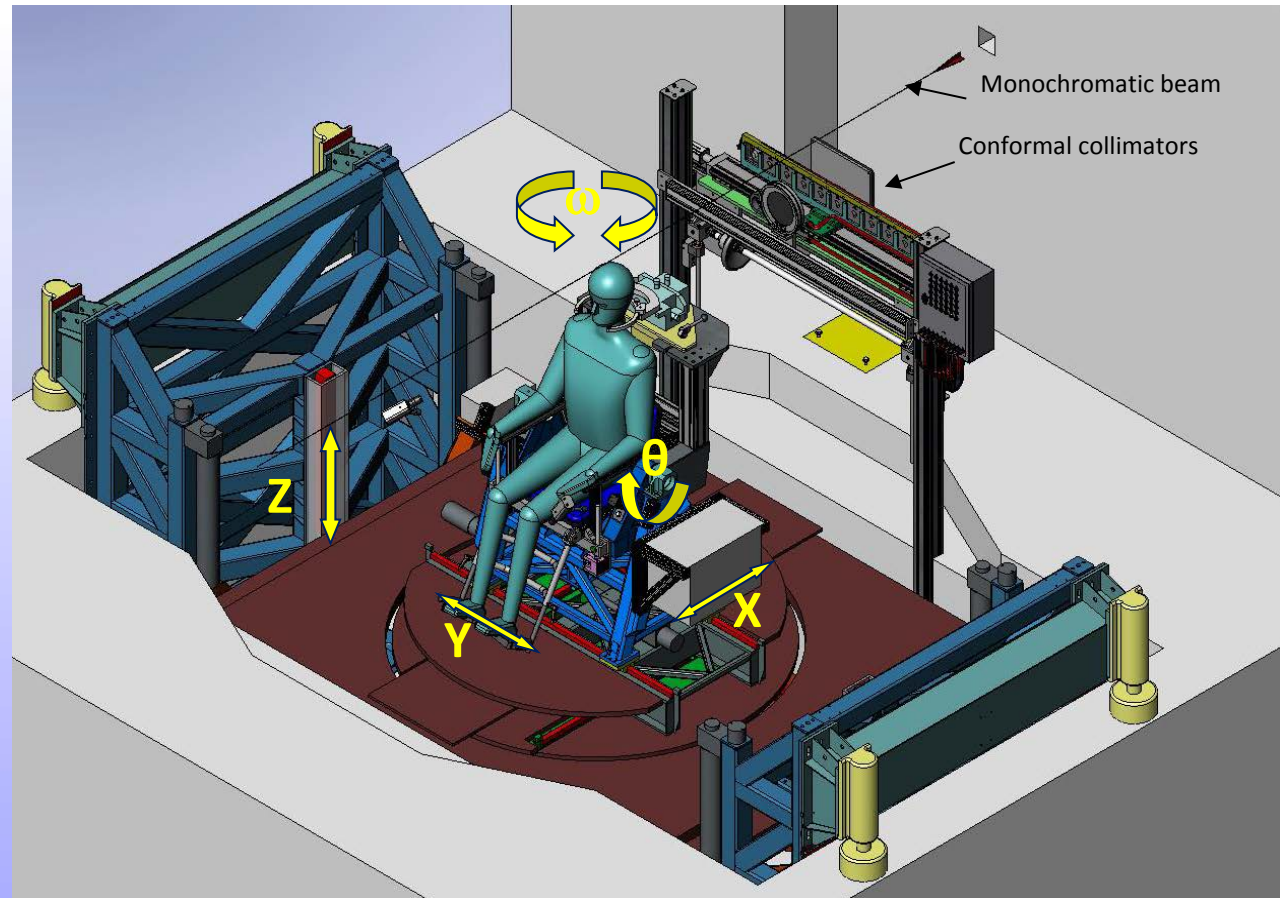


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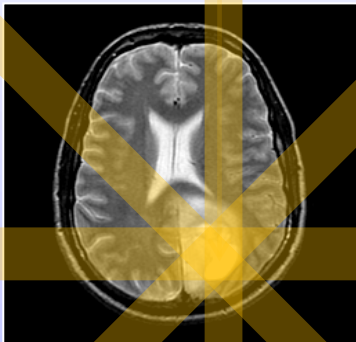
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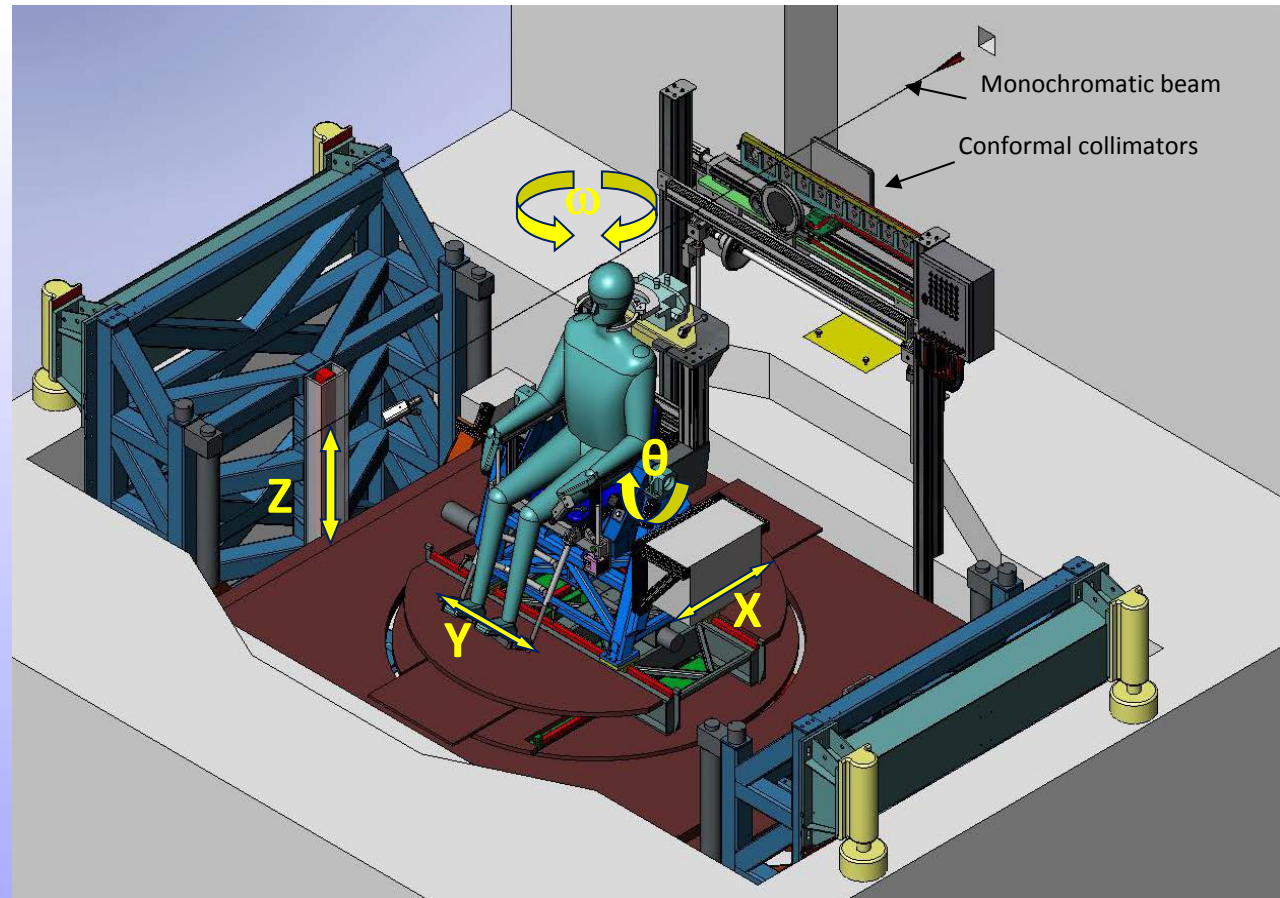


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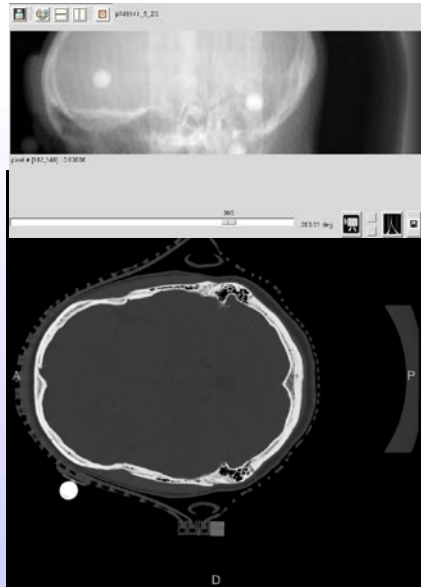


X-ray monochromatic
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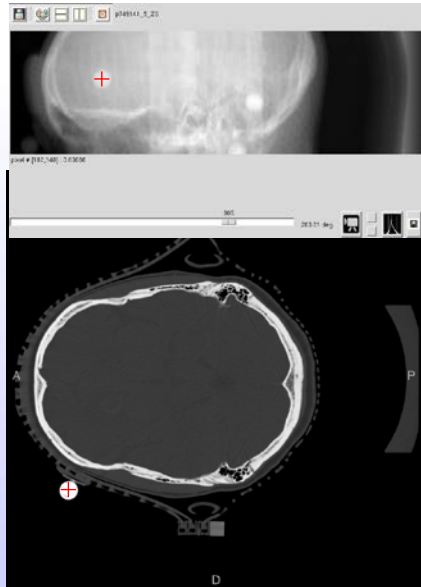


3D-Tomography Alignment



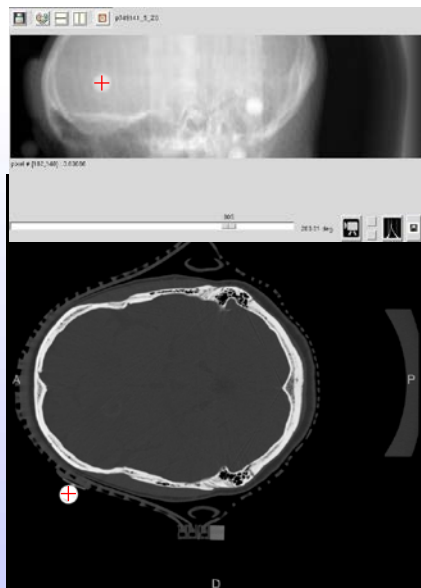


3D-Tomography Alignment





3D-Tomography Alignment



Control Panel

Identité du patient

Nom: Christopher
 Prénom: cras
 Numéros IPP: 123
 Date de naissance: 21/10/2000
 Nom du médecin: Jeff
 Institut: ESRF

Information sur l'examen

Tomographie: NON
 Type d'examen:
 Epaisseur plei: 15.5 cm
 Gain détecteur:
 Nombre d'images: 110
 Position démarrage Z: mm
 Delta Z / étage: mm
 Position arrivée Z: mm
 Centrage X: mm
 Centrage Y: mm

Information sur le traitement

Date du traitement: 08/07/2013
 Hauteur faisceau: 2 mm
 Gain détecteur: 1
 Nb. Ports: 6

ICO #1 Reference: 2341.87 cGy/mA
 ICO #2 Reference: 2341.86 cGy/mA
 ICI Reference: 2263 cGy/mA
 T Reference: 20 deg
 P Reference: 1013.25 MPa
 P/T Correction: 1.047

	Omega (deg)	Dose@2cm (Gy)	Dose@50cm (Gy)	Debit (mCi/mA)	PTW #1 (mCi/Gy)	PTW #2 (mCi/Gy)
Incidence #1	180	2	1.36	0.259324	41.4994	40.7074
Incidence #2	90	2	1.36	0.228162	36.8649	36.1136
Incidence #3	40	2	1.36	0.239927	38.7312	37.9799
Incidence #4	130	2	1.36	0.262243	42.0639	41.2684
Incidence #5	130	2	1.36	0.22	43.099	43.22
Incidence #6	139	2	1.36	0.233	39.09	43.33

Tomographie **Irradiation** **White Field**

ICO

	Prevue (ct/s)	Actuelle (ct/s)	Delta (%)
#1	468382	561923	19.97
#2	468372	555824	18.67

Dose totale à l'isocentre

	Prevue (Gy)	Actuelle (Gy)	Delta (%)
	8.160	0	-100

Facteur de correction 0.982

IC1

	Prevue (ct/s)	Actuelle (ct/s)	Delta (%)
	0	0	0

Isocentre

	Isocentre X (cm)	Isocentre Y (cm)	Isocentre Z (cm)	Callimetre Z (cm)
	80.146	89.90	80.76	87.36

Incidence # Dose délivrée / Dose prévue (Gy @ 2 cm)

	#1	#2	#3	#4	#5	#6
	0.000 / 2.000 (100.0 %)	0.000 / 2.000 (100.0 %)	0.000 / 2.000 (100.0 %)	0.000 / 2.000 (100.0 %)	0.000 / 2.000 (100.0 %)	0.000 / 2.000 (100.0 %)

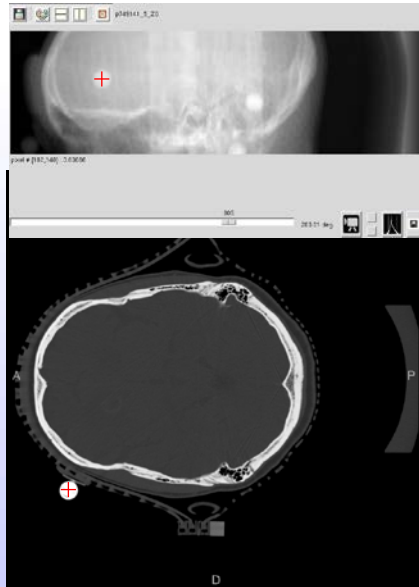
Fin de l'incidence

Message Port #1: Pret pour la premiere serie d'irradiation

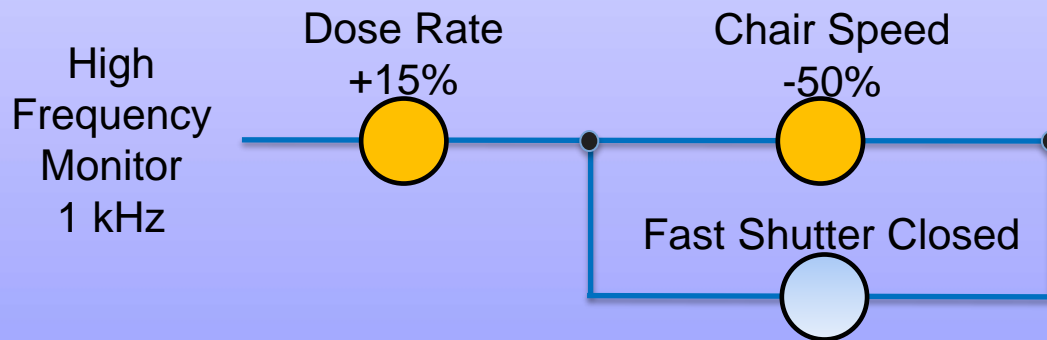
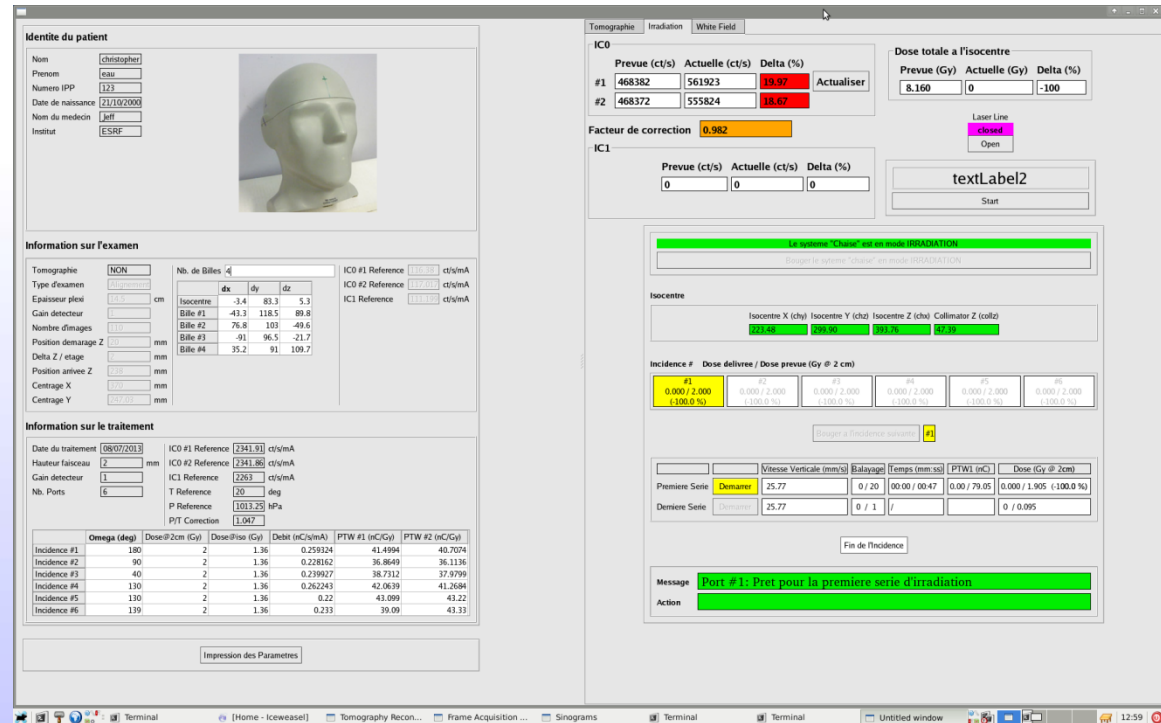
Action



3D-Tomography Alignment

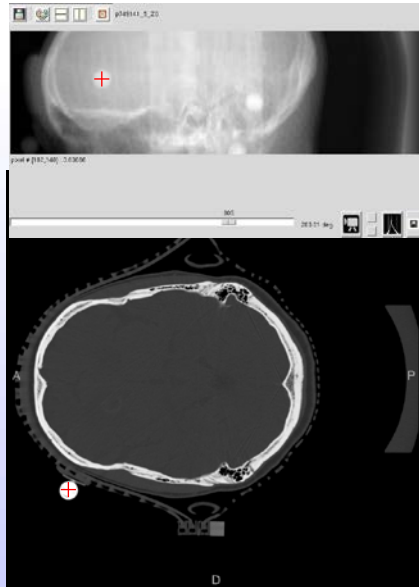


Control Panel

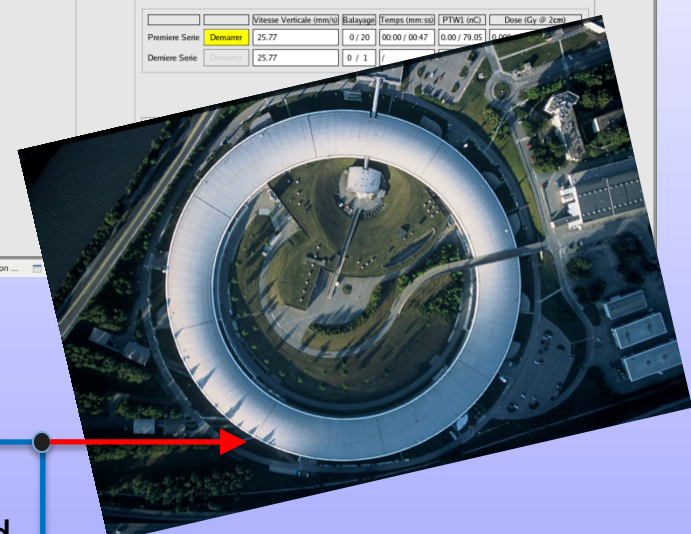
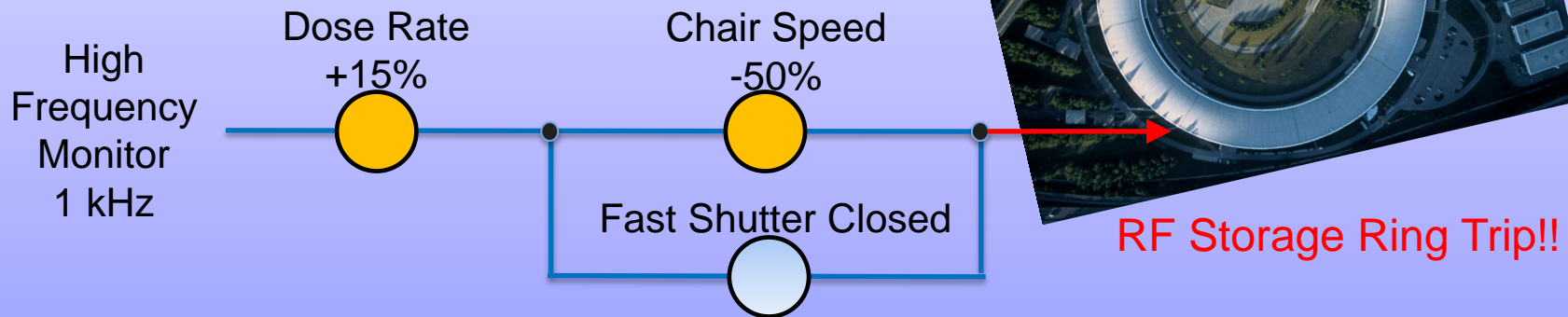
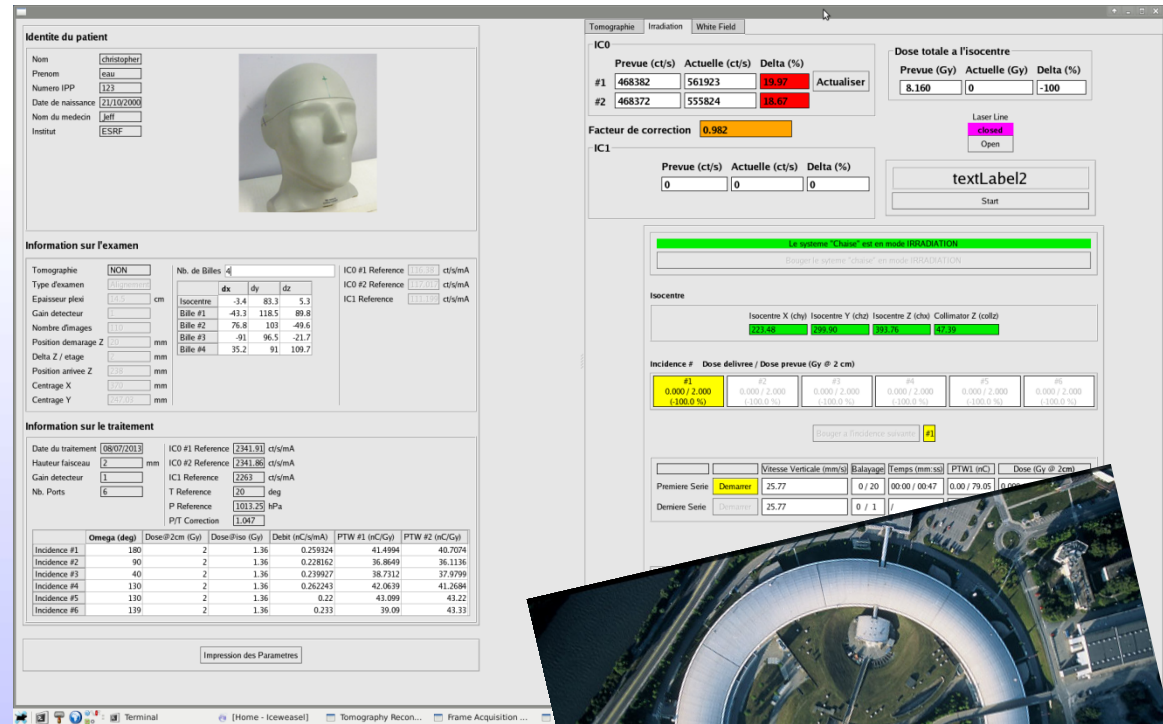




3D-Tomography Alignment



Control Panel



RF Storage Ring Trip!!