



Klinische Erfahrungen mit Compass

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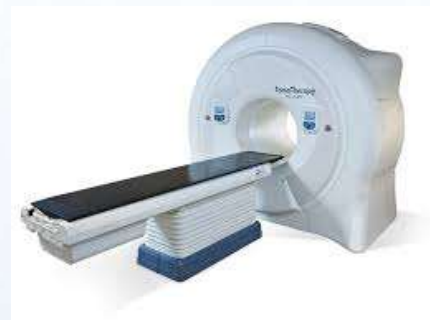
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Ausstattung Klinik

3 Truebeam Beschleuniger



1 Tomotherapie



Cyberknife Centrum Soest



Beginn der IMRT in Münster

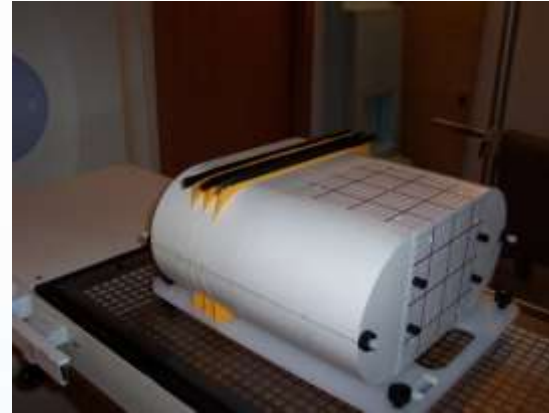
IMRT seit 2009 (Start mit Siemens Primus)
mit Step & Shoot Technik

Wie verifizieren?

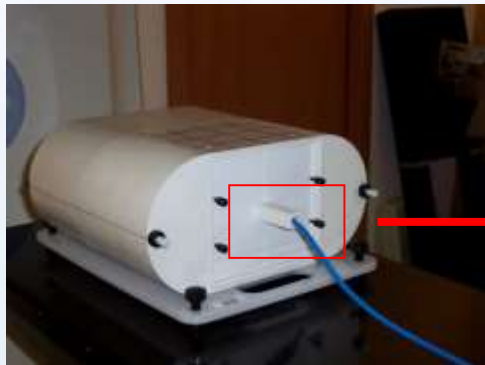
Messphantome für Filmdosimetrie / Absolutdosimetrie



Fluenzphantom

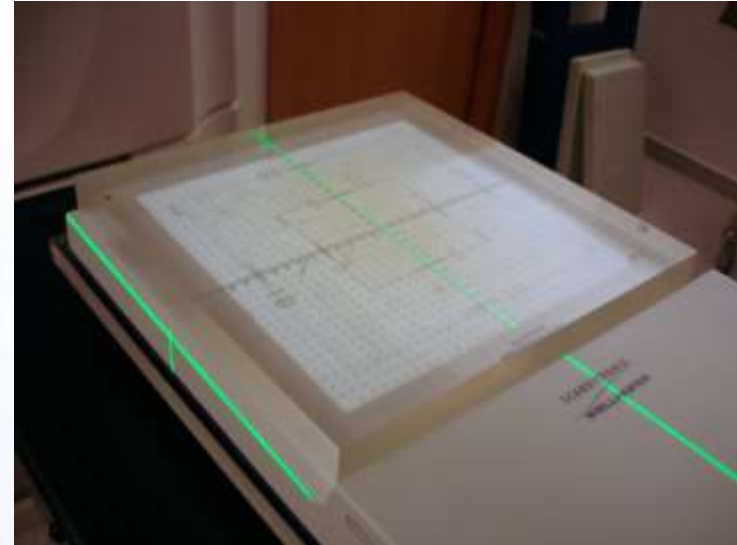


Körperphantom



Messung der Absolutdosis im Isozentrum mit einer Ionisationskammer

Einführung MatriXX



2D-array (IBA IMRT MatriXX)

1020 Ionisationskammern, 4,5 x 5 mm , 0,08 cm³, 32x32 grid

Active area 24,4 x 24,4 cm², 0,761 mm center to center

Verzicht auf Volumendosis im Körper !!!

Neue Generation Truebeam Beschleuniger

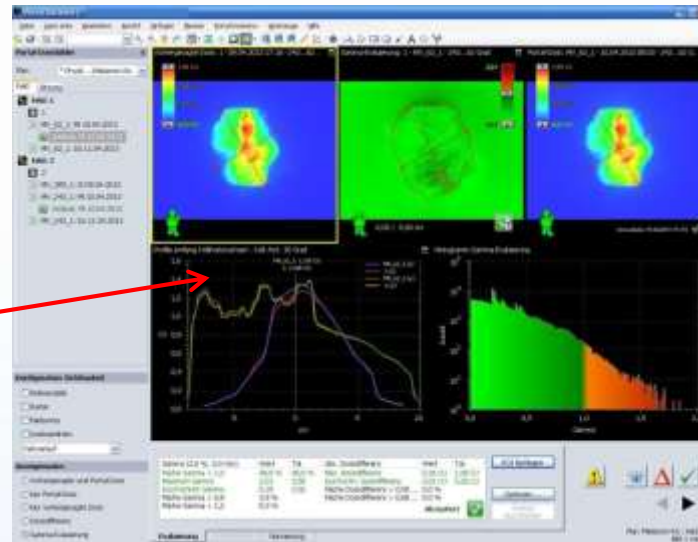
Installation Truebeam 2012

Beschaffung Compass / Einmessung

→ Verifikation ?

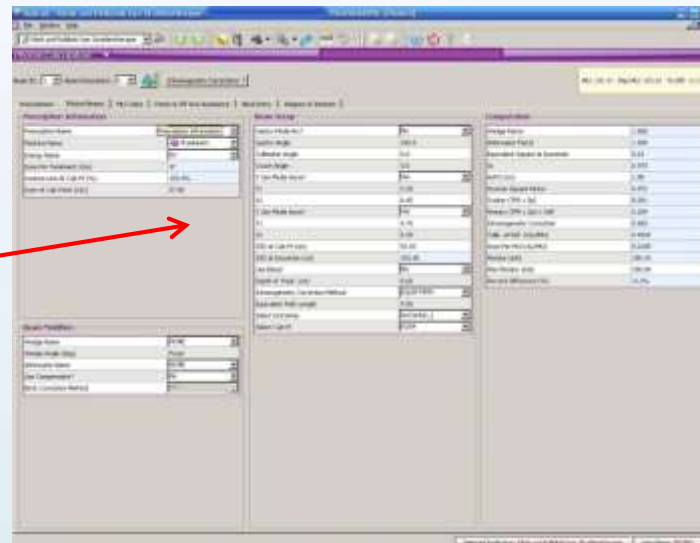


Portal Dose -- RadCalc

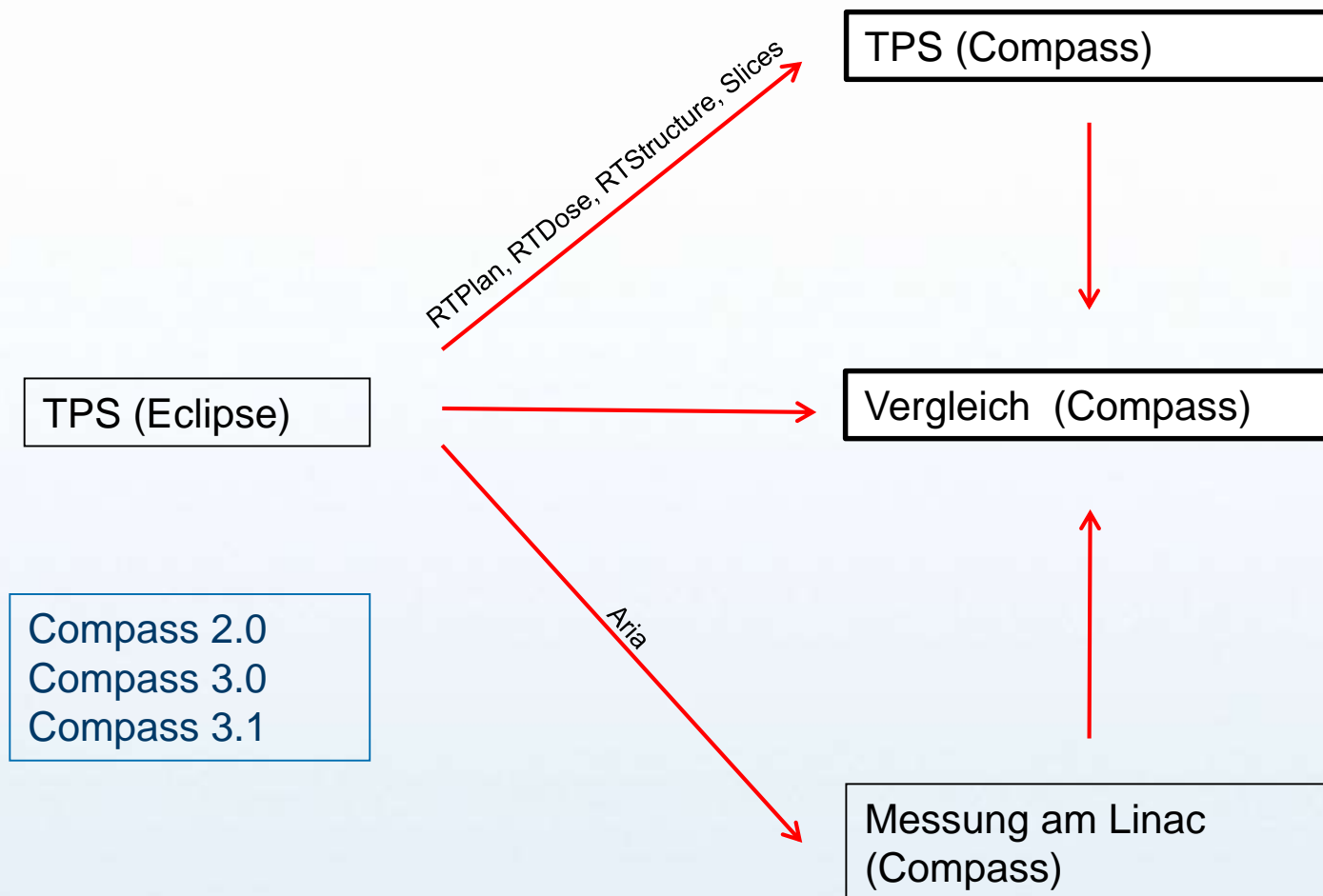


Spezieller Verifikationsplan zur Erstellung der Response erforderlich !!

TPS (Eclipse)



Compass



Messung Compass mit MatriXX



- Background
- Vorbestrahlung
- Kalibrierung Bewegungssensor
- Messung im QA Modus

Messung Compass mit MatriXX



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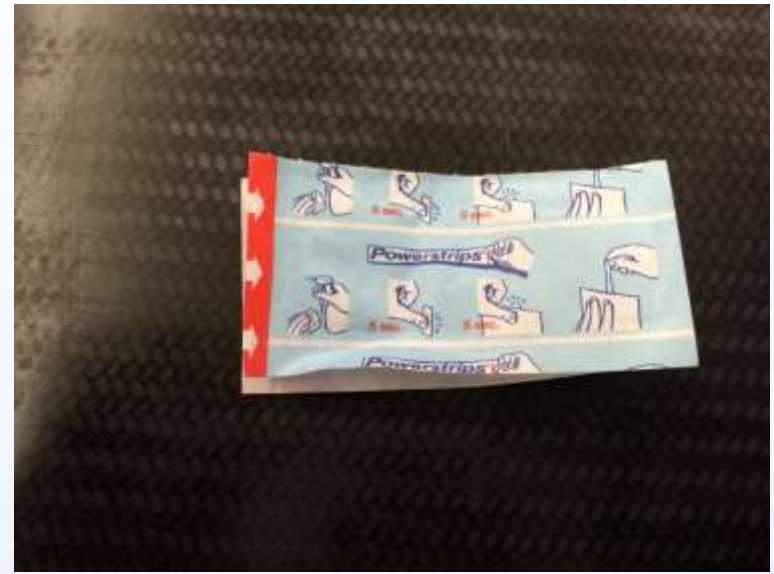


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Messung Compass mit MatriXX

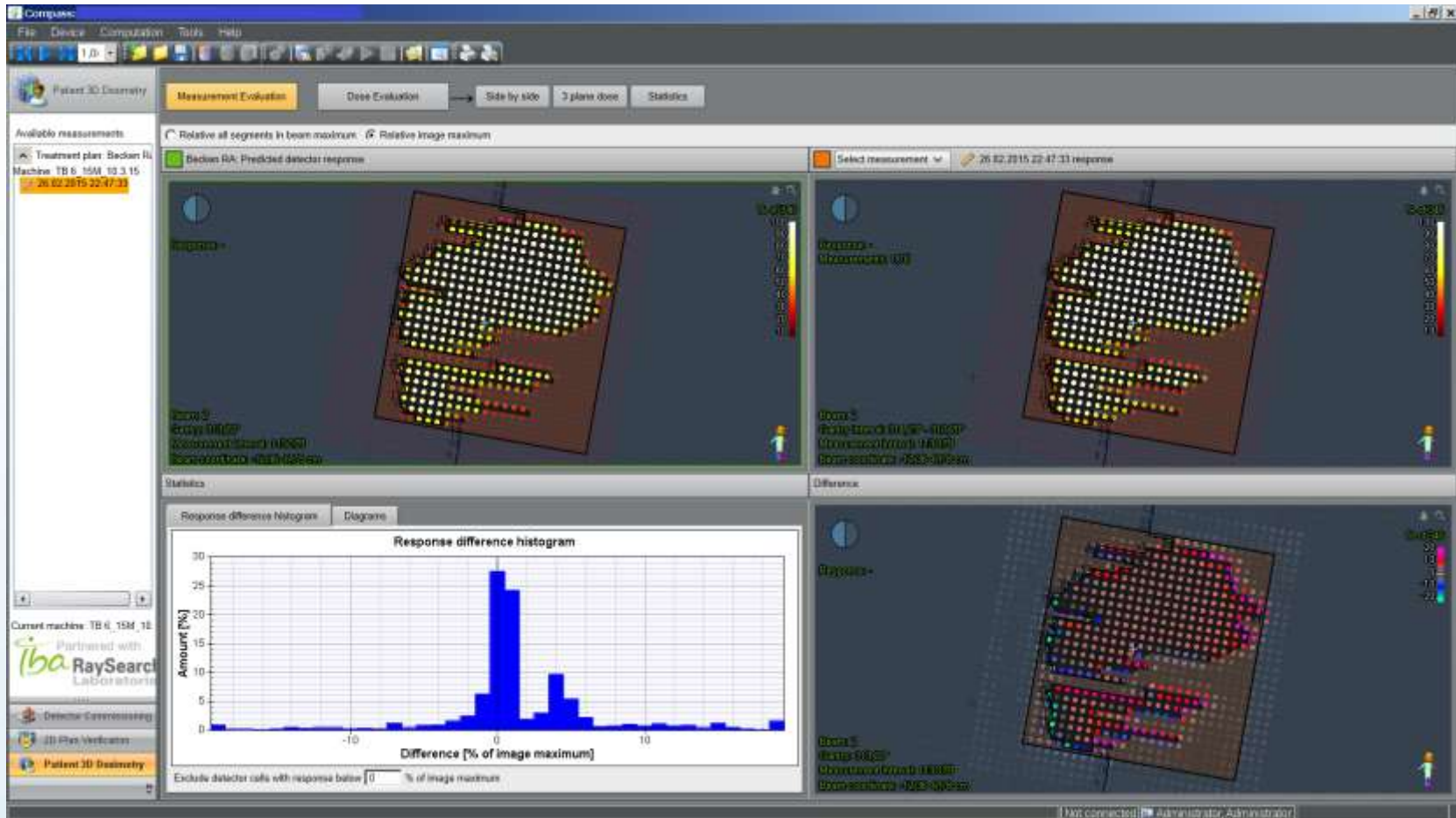


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Messung Compass mit MatrixX Vergleich der Response



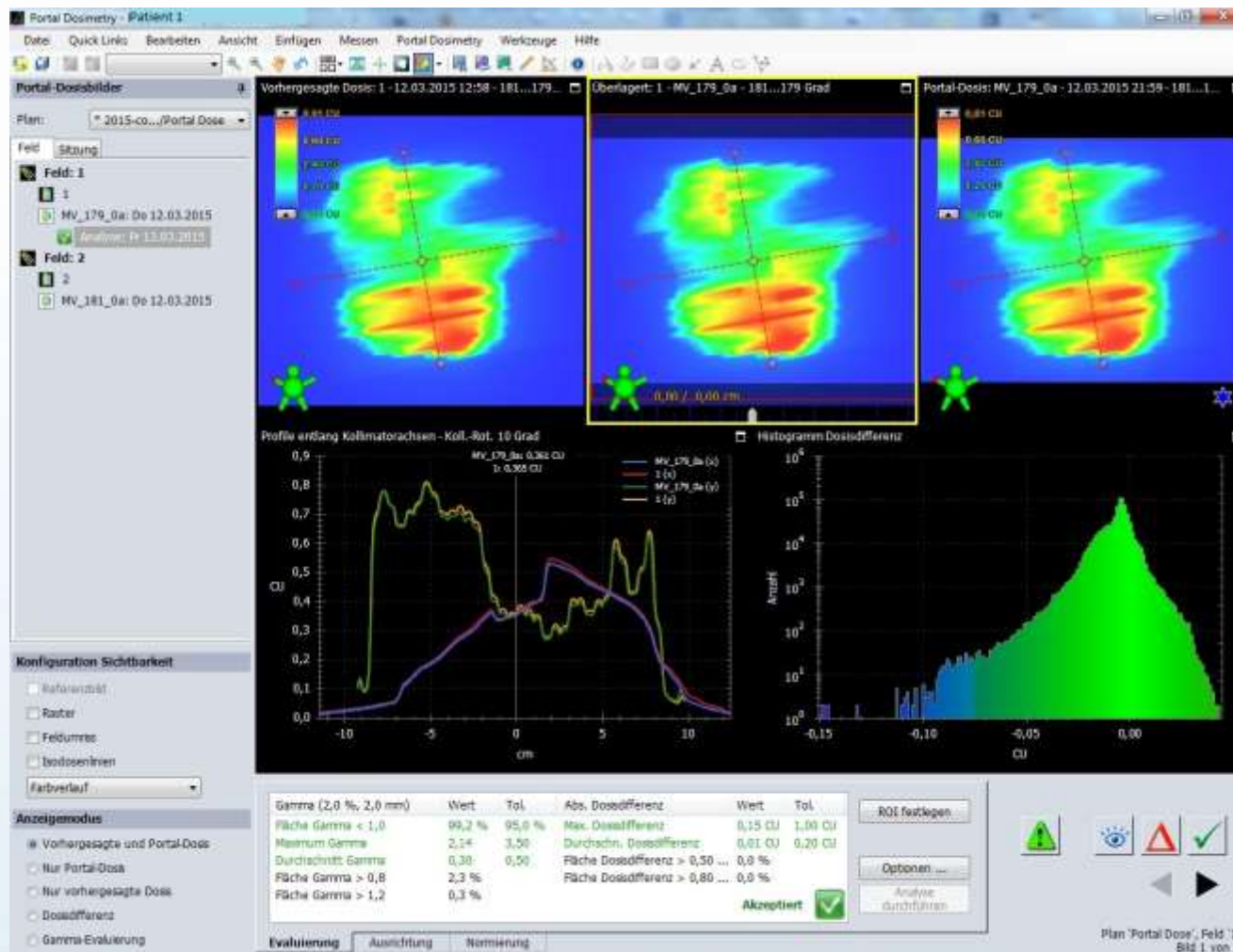
Compass Dose Evaluation

The screenshot displays the Compass software interface for dose evaluation. The main workspace is divided into four quadrants:

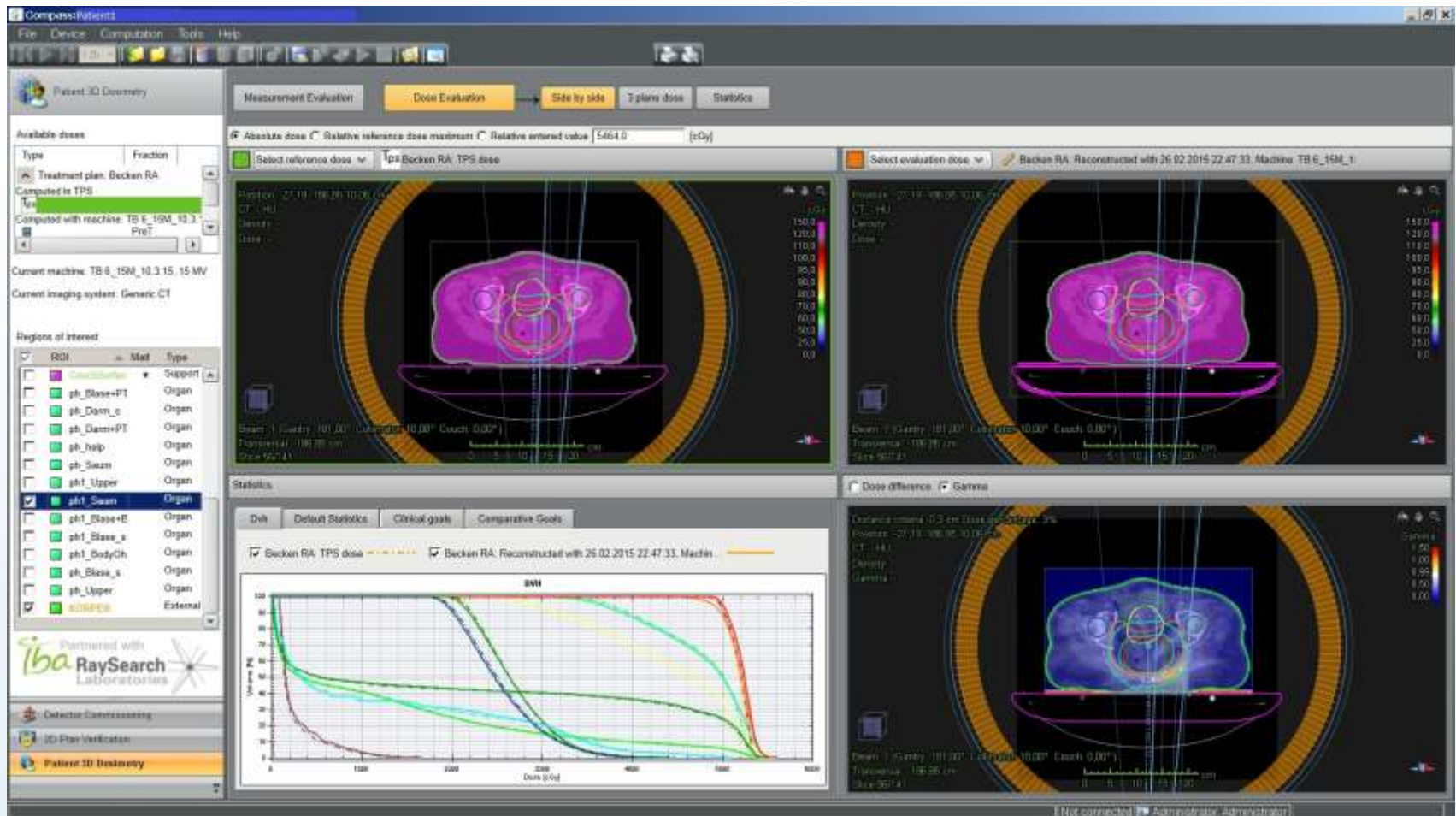
- Top-Left:** Shows a cross-sectional CT scan of a patient's pelvis with a purple dose distribution overlay. The dose scale ranges from 0.0 to 150.0 Gy.
- Top-Right:** Shows a similar cross-sectional CT scan with a different dose distribution overlay. The dose scale ranges from 0.0 to 150.0 Gy.
- Bottom-Left:** Displays a DVH (Dose-Volume Histogram) graph. The x-axis is labeled 'Dose [Gy]' and ranges from 0 to 6000. The y-axis is labeled 'Volume [%]' and ranges from 0 to 100. Multiple colored curves represent different organs at risk (OARs) and target volumes.
- Bottom-Right:** Shows a cross-sectional CT scan with a blue and green dose difference overlay. The dose scale ranges from 0.0 to 1.50 Gy.

The interface includes a sidebar on the left with patient information (Patient: 3D Coorethy) and a list of Regions of Interest (ROIs) such as Boost.ter, ph1_help, Caustic.ter, Blase, S.Terna, Darm, PTV.iss, Myelon, Cauda equina, Femur.re, Femur.l, ph_Cauda+5mm, ph_cauda_s, ph_BodyOhrvPT, and Support. The top menu bar includes File, Device, Computation, Tools, and Help. The top toolbar contains buttons for Measurement Evaluation, Dose Evaluation, Side by side, 3 plane dose, and Statistics.

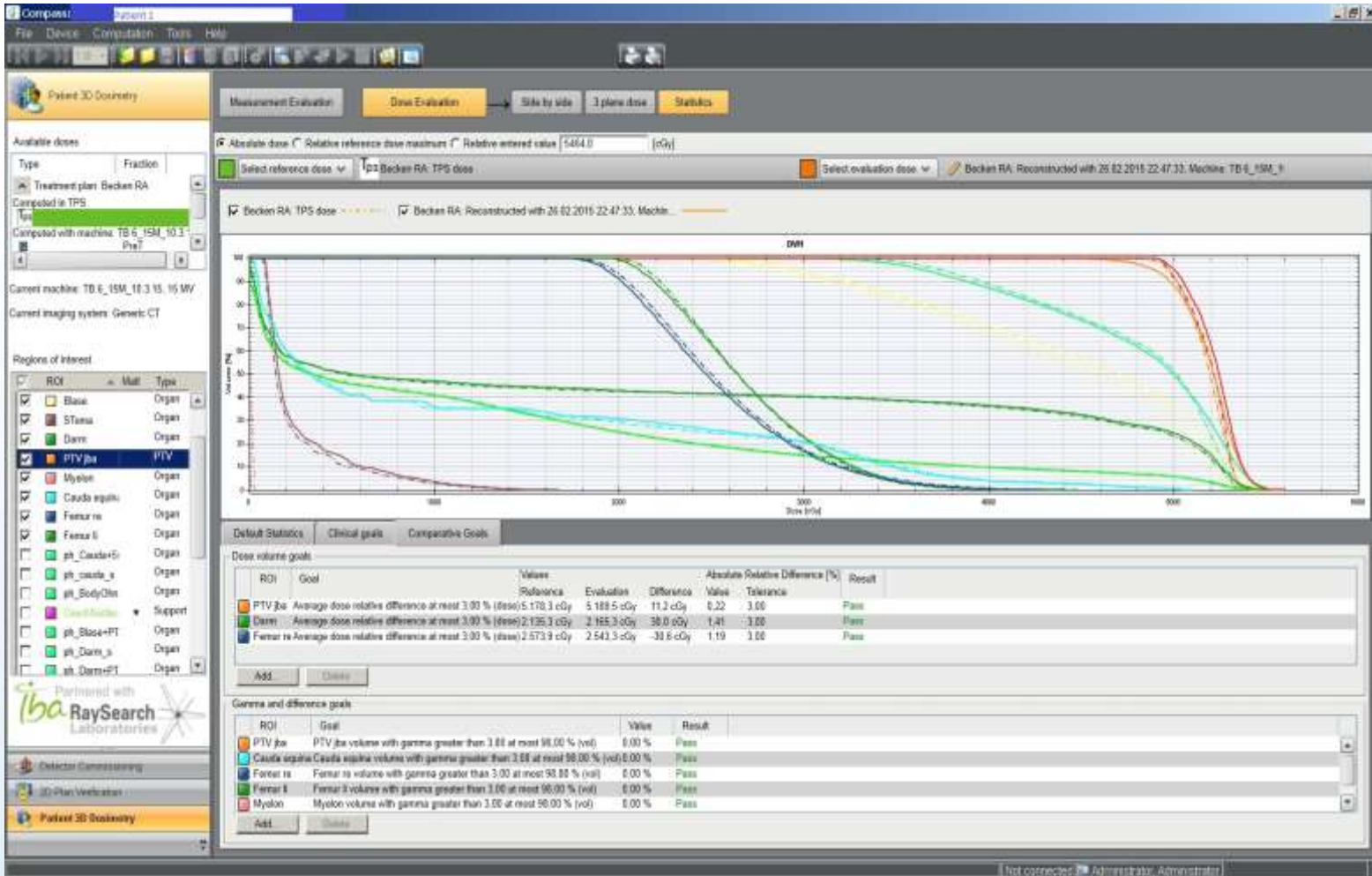
Patient 1: Portal Dose (Varian Truebeam)



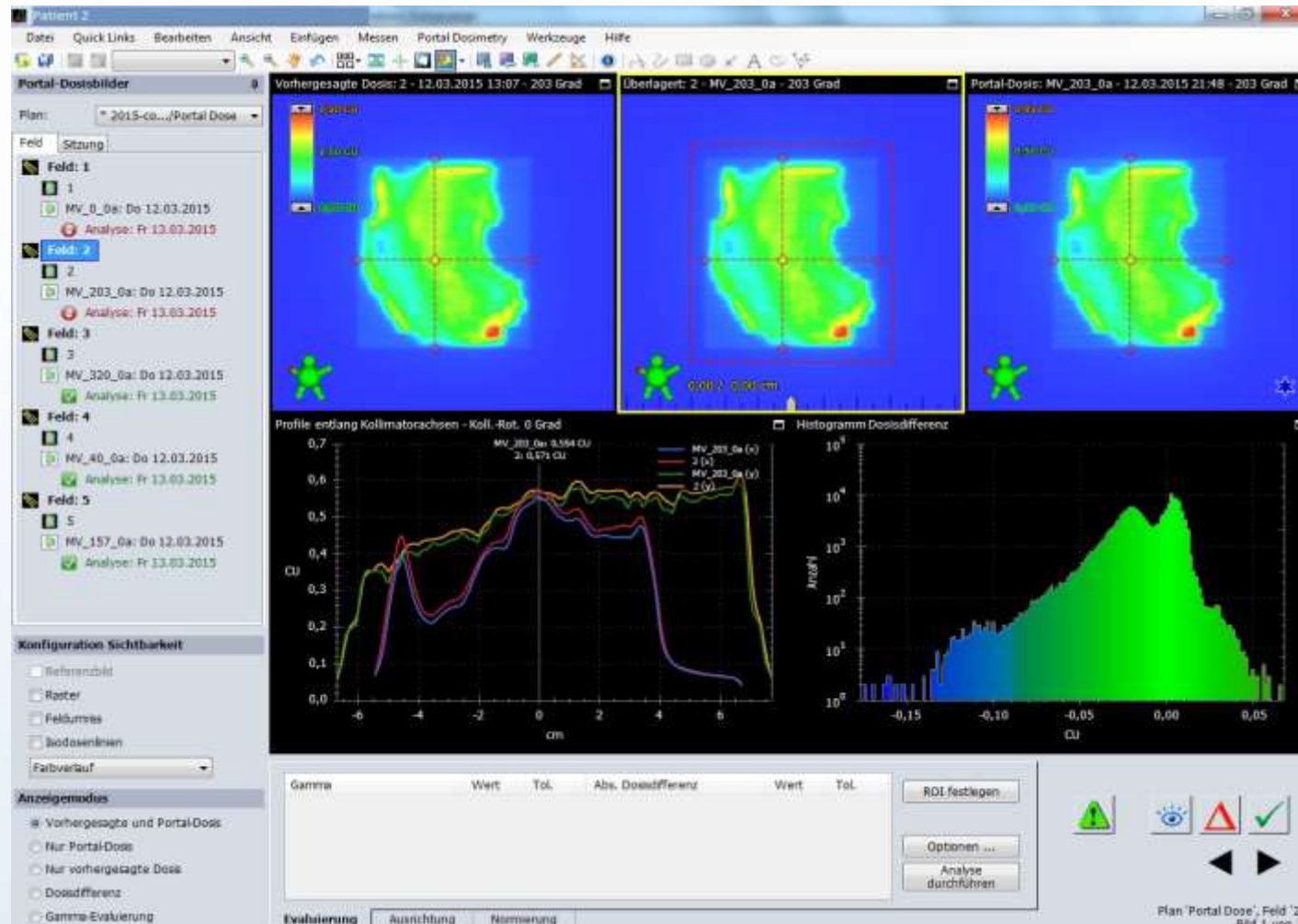
Patient 1: TPS Rechnung gegen Messung



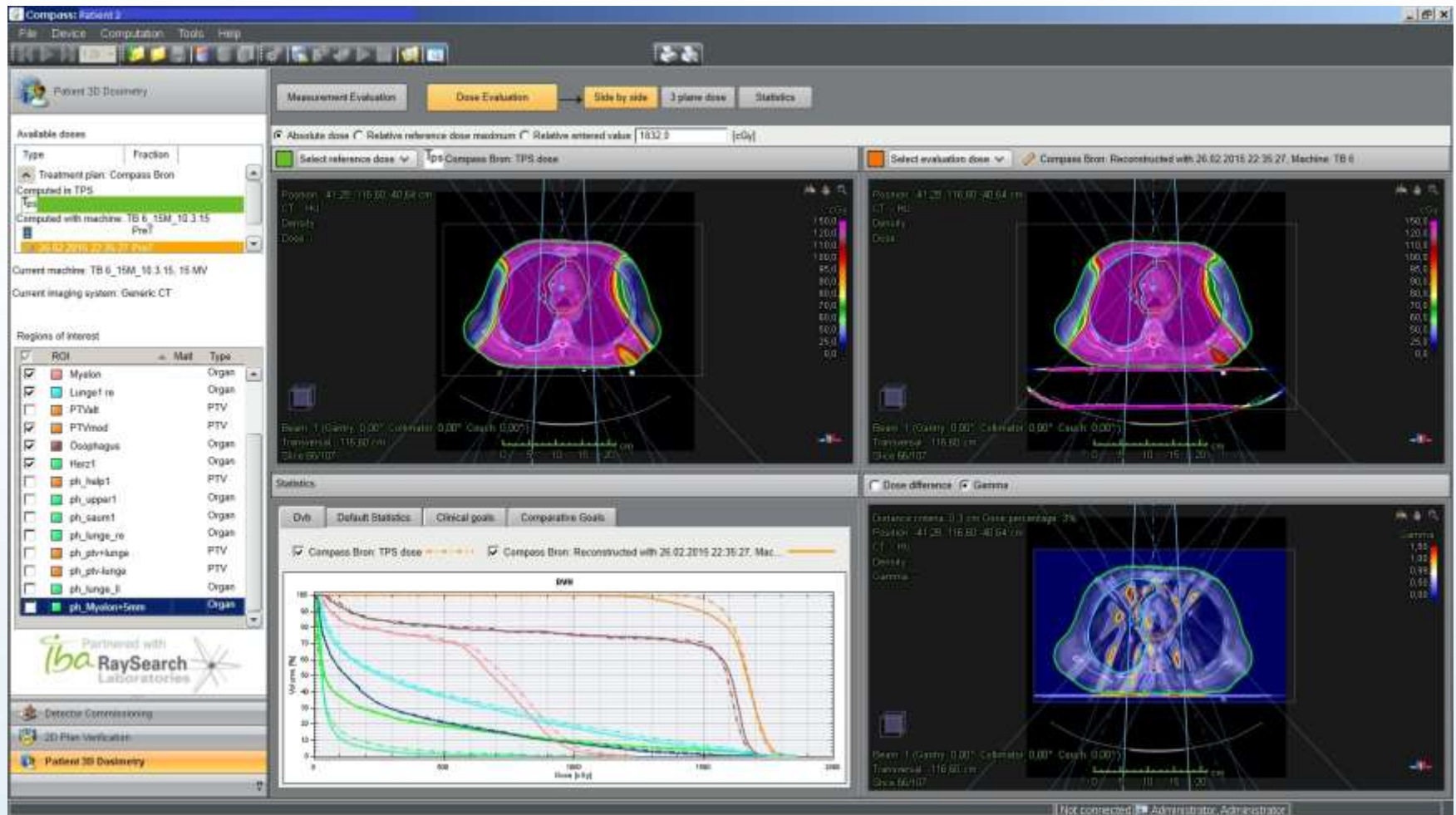
Patient 1: DVH (Vergleich)



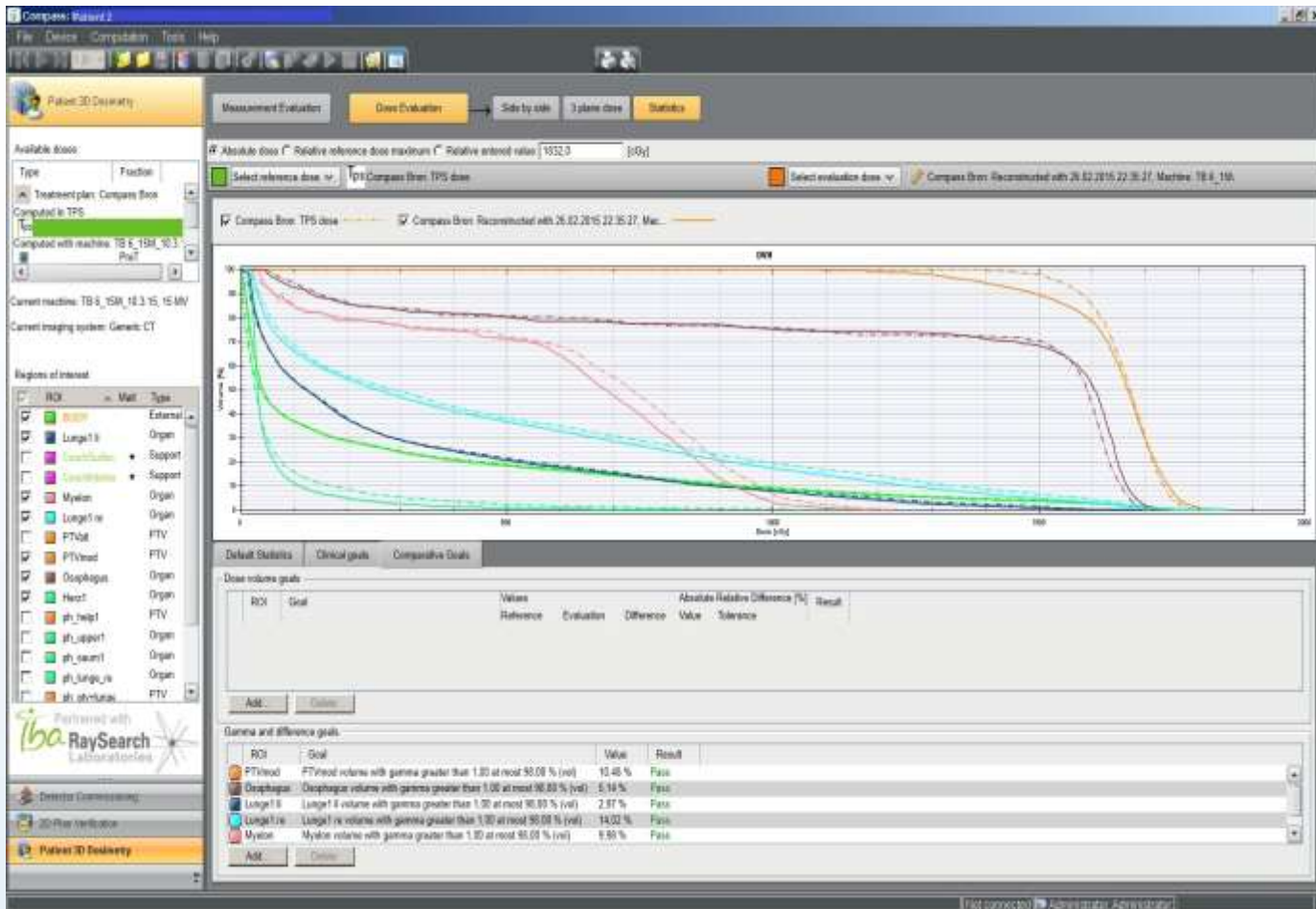
Patient 2: Portal Dose (Varian Truebeam)



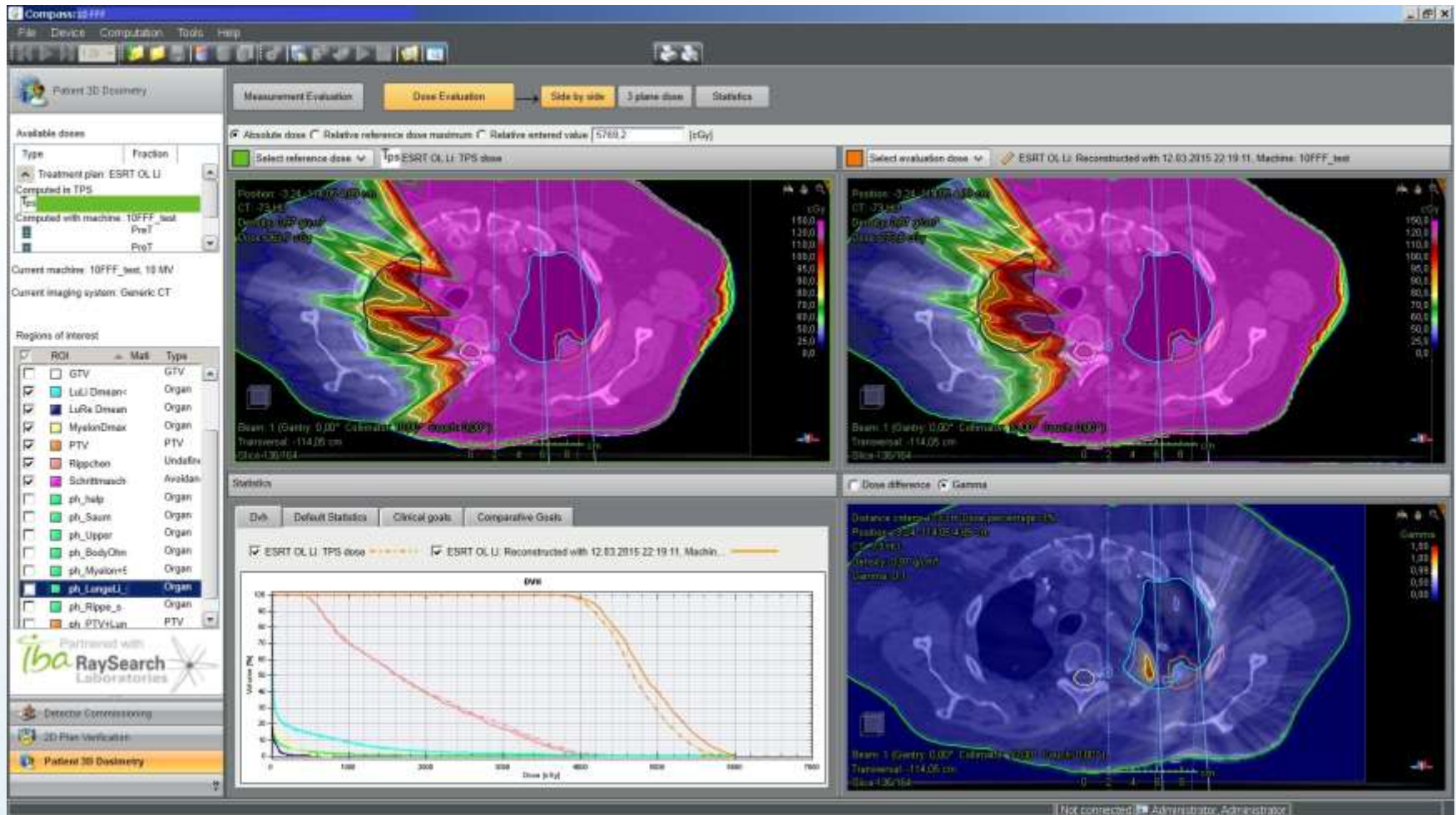
Patient 2: TPS Rechnung gegen Compass Messung



Patient 2: DVH (Vergleich)



Patient 10FFF



Vergleich DVH 10FFF



Zusammenfassung

Vorteile

2 Möglichkeiten der Verifikation

- Gegenrechnung
- Messung

Optimale Beurteilung

10 FFF

Bestrahlung des Original-Plans
(Kein Verifikationsplan notwendig)

Keine Blackbox

Keine Belastung des eigenen Detektors des Linacs

Guter Support !!!!

Nachteil

Einmaliger Messaufbau

Hoher Verbrauch an Power Stripes

Akzeptanz ????



Ausblick





Vielen Dank für Ihre Aufmerksamkeit!