

1. Comparison between *syngo* Treatment Planning System and *matRad*

Syngo is the currently used treatment planning software at the Heidelberg Iontherapy Centre (short: *HIT*). Note that the following sections are sensitive of the current state of the programme, therefore this author always provide the commit at which the measurement has been done.

I. Carbon

The following calculations were performed on 27 / April / 2016¹. The files were exchanged via DICOM standard.

I.1. General Note of Main Calculational Differences

As *syngo* and *matRad* operate in different ways, there are some things to be considered before comparing CT images and dose distributions of both systems. *matRad* uses for the dose distribution as well as for the ct image the same resolution. In *syngo* these parameters can be set independently. Therefore the user has to set the resolution right at the beginning of the importing process. This author considered the following implications:

- XXX LOREM XasdfXX

¹latest commit: 4955114374d353c5aca9fca7fc5bf835e974d297

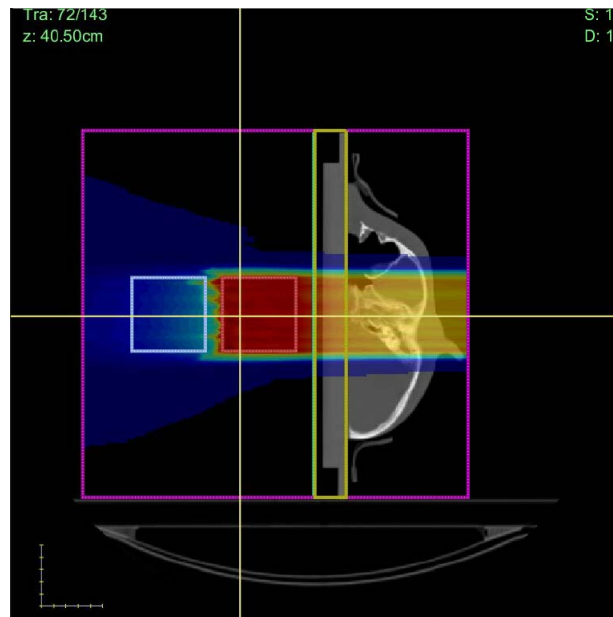
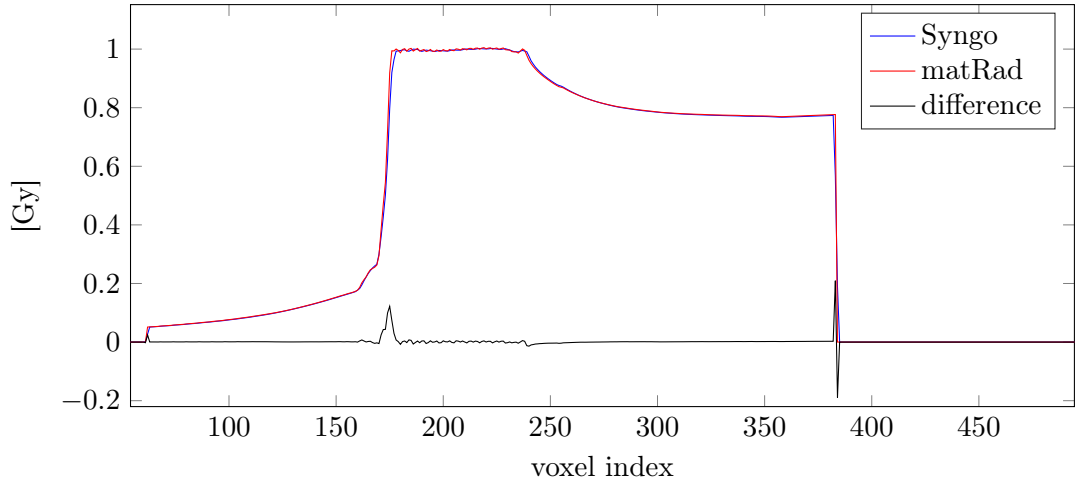


Figure 1.1.: *Aldersonkopf*

Aldersonkopf-QS4C_221_VB10_non-human
beam direction - lateral position:257 slice:79



lateral profile; x:193 slice #79

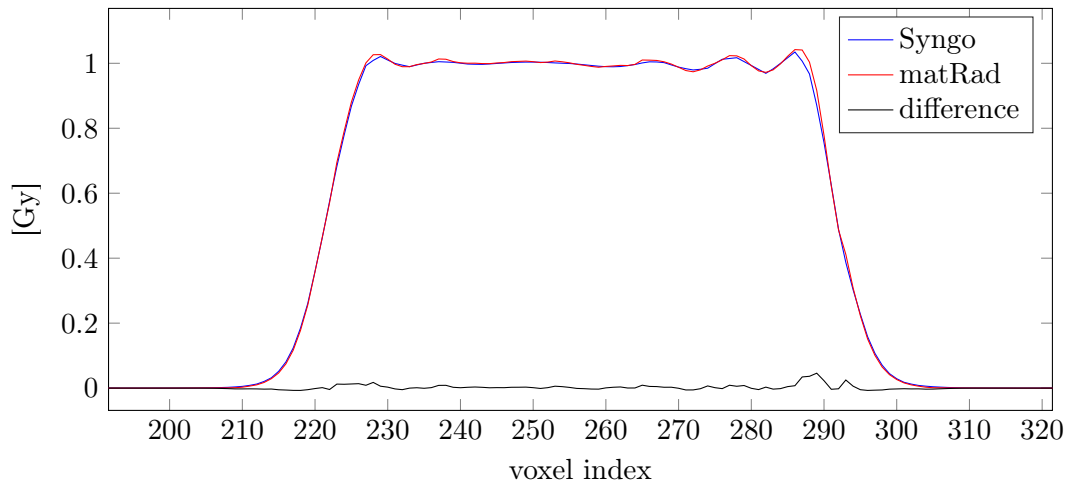


Figure 1.2.: *Alerdsonkopf Recaculation - Full CT Resolution*