

MDR compliant in-house developed software

HollandPTC, 09-05-2022

Name of software	Purpose of software	Software meets the GSPR requirements
ETR Chair translation sheet	Calculates chair positions based on a given translation	Yes
ETR Clip simulation sheet	Gives 2D projections of clips for the requested gazing angle	Yes
ETR Gazing angle sheet	Calculates the required gazing angle of the non-treated eye required to achieve the planned gazing angle of the treated eye	Yes
ETR Tumor length calculation sheet	Calculates the length of a tumor along the base of the eye	Yes
ETR Patient QA sheet	Validates the treatment plan and calculates the number of MU required to satisfy the prescription dose	Yes
4DCT	A script that slices up an 4D CT scan into individual scans of the different phases for import into Raystation. Without this script, 4D scans cannot be imported in to Raystation.	No
Add voxelwise max	This script adds up the dose parameters of all selected voxelwise max dose maps, based on the fractions assigned to each dose map. It is used to estimate the dosimetric impact after replanning. This script greatly reduces RTT workload.	No
Change Frame of Reference	This script changes the frame of reference of an examination. This is for example required when examinations that share a frame of reference are not properly aligned, and manual matching is needed. Without this script, misalignments of connected scans cannot be corrected. This script was developed by an external institute (or RaySearch).	No

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Continue optimization	For certain plans, multiple re-optimizations are required in order to obtain a satisfactory plan. This scripts automatically repeats the optimization a predefined number of times, thereby reducing RTT workload.	No
Contour propagation	This script propagates the contours from the source image to the target images, with the selected deformable registrations. The script was designed to aid treatment planning for patients with 4D CT (e.g., lung patients). This script greatly reduces RTT workload.	No
Contour update	This script is used to update composite contours. Composite contours have dependency on other ROIs. Once the other ROIs are changed, the composite contours should be updated, otherwise they would be invalid. The script is able to update the selected contours on specific CT scans. It also automatically removes holes for the External contour. This script greatly reduces RTT workload.	No
Copy spots to CT	This script copies the spots of a treatment plan from one CT to another CT. It is primarily used during replanning. This script reduces optimization time by providing a 'warme start'.	No
Create beam specific CTV	This application created a beam specific CTV in order to account for density/range uncertainties of metal clips. The working of this script is based on the manual workflow. This script greatly reduces RTT workload.	No
CT tag check	The CT acquisition settings can have a large impact on the perceived material densities. This scripts checks whether the acquisition settings match those of the selected protocol. The output can be exported in PDF format. This script greatly reduces RTT and MP workload.	No
Find dose specification point	This application finds a dose specification point in 3D that exactly matches the dose values chosen by the user and to which all beams contribute. The dose specification point is used by Aria for treatment administration. This script greatly reduces RTT workload and improves treatment administration accuracy.	No

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Localization point – Isocenter	This script generates a sheet with the positions of the localization point and isocenter and the required couch shift to move the patient from the localization point to the isocenter. This script reduces RTT workload.	No
Low weighted spots check	An application used to check the number and cumulative dose of low weighted spots. Low weighted spots are spots that are below the position detection threshold of Varian. There is therefore a (small) chance that these spots end up in the wrong place undetected. The output can be exported in PDF format. Without this script, it would not be (realistically) possible to check the number and possible impact of low weighted spots in the plan.	No
Merge repaint layers	This script calculates the number of repaint layers required to satisfy the low weighted spot limitations. After running the script, a new plan will be generated with exactly the same beam configurations as the original plan, but with different number of repaint layers for each energy layer. Reducing the number of repaint layers to reduce the number of low weighted spots is something that cannot realistically be done manually.	No
Off center position	This scripts allows the user to shift the patient 4cm relative to the table; either left of right. This is achieved by shifting the table structures in the opposite direction. This script reduces RTT workload.	No
PET CT pixel padding	Raystation cannot import PET-CT scans with varying padding pixel values. This script override the padding pixel of all slices to be the same value as the first slice. Without this script, importing certain PET-CT scans would not be possible.	No
Physics check	This script checks numerous aspects of the plan and generates a partly pre-filled PDF template used by MP to check the plan. This script greatly reduces MP workload and improves consistency.	No

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Remove empty ROIs	This script removes the empty structures from the patient. The empty structure is defined as the structure that does not have contours in any of the CTs. This script reduces RTT workload.	No
Respiratory amplitude	This scripts calculates the respiratory amplitude of the chosen structure using the deformable registration between two scans. The respiratory amplitude is calculated as the 90th percentile of the deformable vector field magnitudes. The output can be exported in PDF format. Without this scripts, this metric cannot be obtained.	No
Robustness analysis	The robustness analysis tool is a RayStation application. It evaluates the robustness of a treatment plan against the potential setup and range uncertainties. Clinically, this tool is used to check the robustness of the treatment plans. The user can select the clinical, which defines the robustness settings (setup and range errors), as well as the dose parameters to evaluate in the report. When the perturbed doses are generated, one can generate a robustness report for the current patient. The report contains a summary of how many dose parameters exceed the clinical constraints, as well as the dose parameters for each OAR of interest per scenario. This script greatly reduces RTT and MD workload.	No
Robustness analysis 4D	Same functionality as the robustness analysis script, but then for plans optimized on 4D scans. This script greatly reduces RTT and MD workload.	No
Robustness analysis multiple CTs	Same functionality as the robustness analysis script, but then for plans optimized on multiple CTs. This script greatly reduces RTT and MD workload.	No
Struct rename	This script helps rename the OAR structures from a referring institute, according to the standard clinical protocol in HollandPTC. This script greatly reduces RTT workload.	No

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