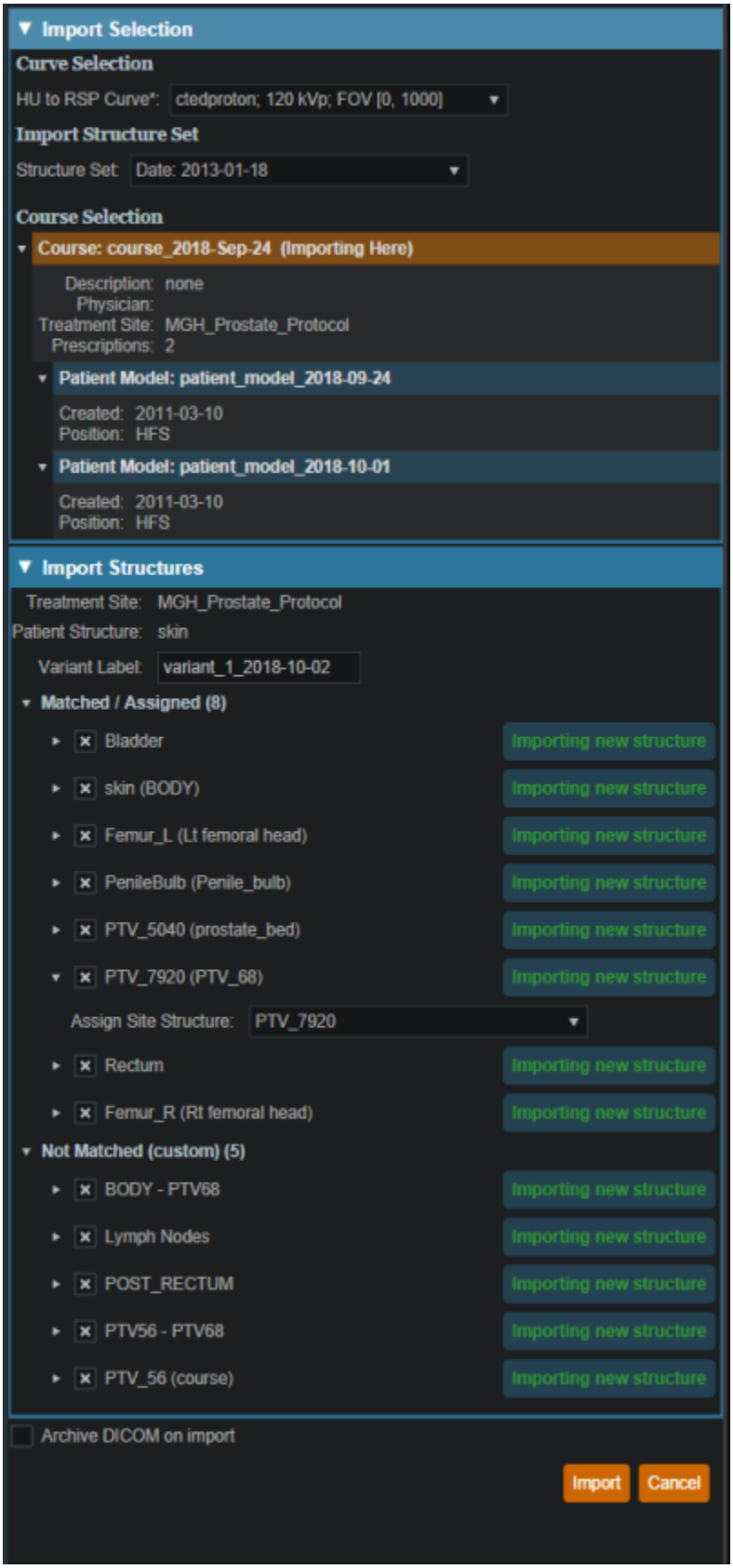
Adaptive Planning

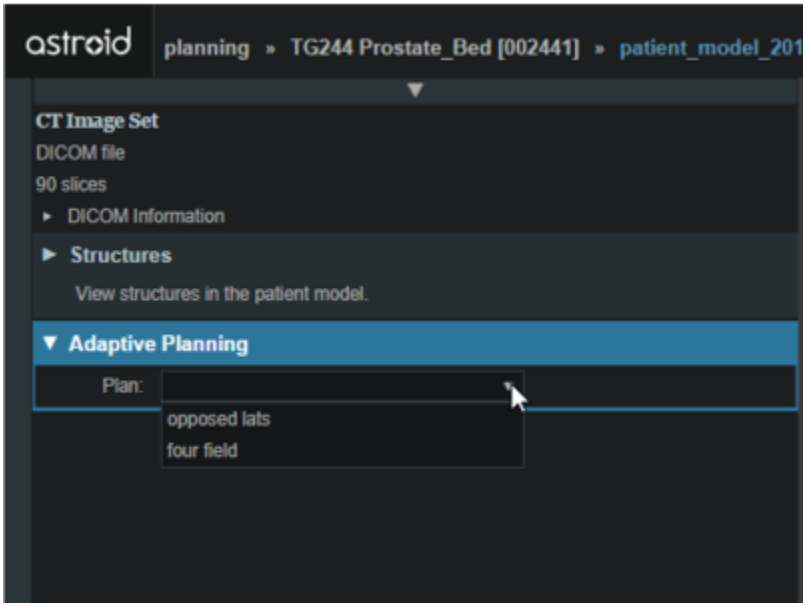
Adaptive Planning is another powerful tool within Astroid that enables users to quickly recompute the dose to a patient for an existing plan when a new CT image set has been obtained. This tool applies an existing plan to the new images and structure volumes (i.e. the plan is not re-optimized) so that the dose is recomputed using the HU data from the new CT images. Users will be able to quickly assess the impact of changes in the patient (e.g. the patient losing/gaining weight) or tumor volume (e.g. tumor shrinkage) on the dose delivered to the patient. The Adaptive Planning tool provides a dual DVH view so that changes to tumor coverage and/or OAR dose can be easily seen and compared. With this information, the clinical team can make accurate decisions regarding when to continue treating with the current plan and when a replan is required. The following steps describe the use of the Adaptive Planning feature:

1. Upload the new CT image and Structure Set files for the patient
2. From the Imports Block, choose the new CT image set and click the blue *Import into Matching Patient* button
3. Select the appropriate HU to RSP curve
4. Select the new Structure Set file then assign your structures as needed to ensure they match the existing Patient Model



5. Click the orange *Import* button
6. Once import is complete open the patient
7. Choose the new patient model and then open the *Adaptive Planning* Block

8. From the drop down list, select the treatment plan that should be used for the computation (Note: only Published plans are available for selection)



9. The selected plan parameters will be used to compute the dose that would be delivered on this updated Patient Model (Note: the isocenter will be place in the same coordinate location as it was on the original image set)
10. Once the calculation is complete the dose on the new data set will be displayed along with a dual DVH that shows the original and new DVH values
11. A decision to treat or replan can now be made with all the necessary data in hand to accurately assess the quality of the existing plan based on the changes to the patient and/or tumor volume
12. If a decision to replan is made, the Plan Template feature can be used to quickly reoptimize the current plan based on the new images and structures