

Electron Beams



In the “Beams” block users can manage all the beams, as well as any blocks or boluses attached to them, included in the plan. In addition new beams can be created and added to the plan.

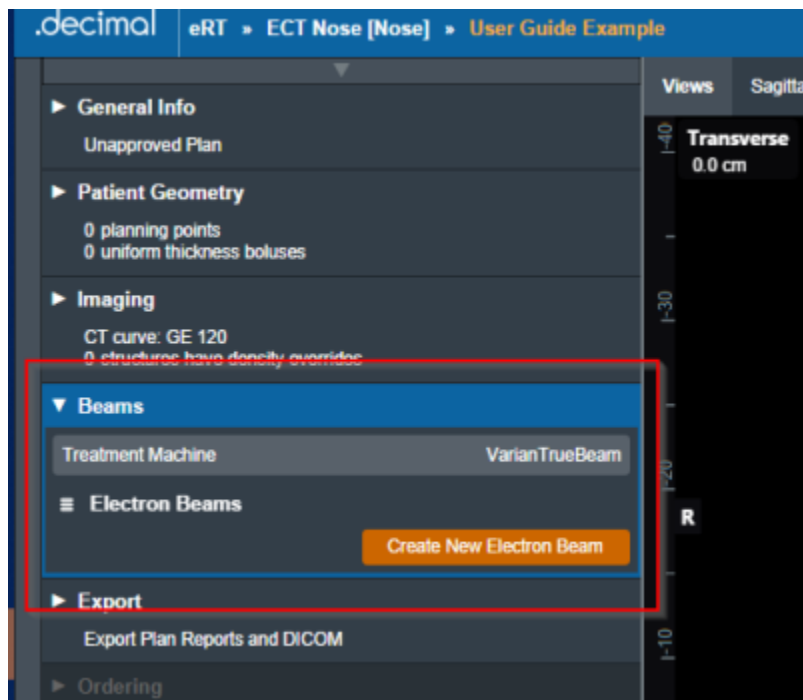


Fig. 1: Beams Block

Managing Existing Beams

The electronRT application will list all beams included in a plan, for each of these existing beams selecting it will show a summary of the details for that beam. Additionally as shown below the user has three options for the selected beam :

- **Clone:** Creates an identical copy of the selected beam and add it to the plan.
- **Edit:** Open the editing dialog to change any editable property of the beam.
- **Delete:** Removes this beam from the plan.

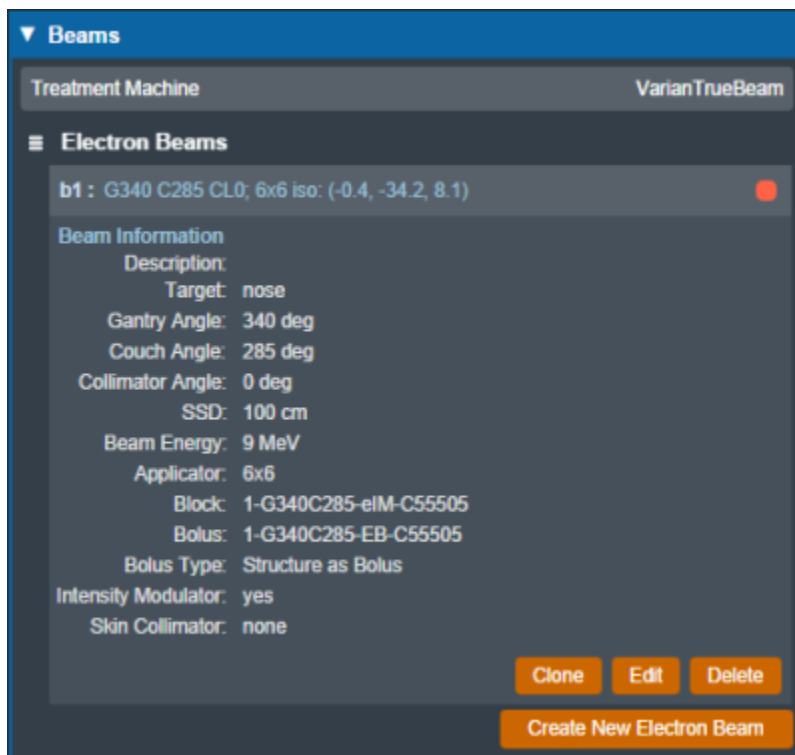


Fig. 2: Existing Beam Example

The editing dialog allows the user to edit any property of the beams that is defined in the “Structure of a Beam” section below. All changes made in this section will be added to the beams once the user selects “Done”.

Edit Electron Beam

▼ **General**

Color: [Color Picker]

Label:

☒ automatically generate label

Geometric Target: nose ▼

Description:

► **Approach** G340 deg, C285 deg, CL0 deg

► **Energy Selection** energy: 9 MeV

► **Normalization** absolute dose: 50.0 Gy

► **Collimation** applicator: 6x6, no skin collimator

► **Bolus** use_structure_as_bolus

Done Cancel

Fig. 3: Beam Editing

Creating New Beams

Selecting the “Create New Electron Beam” directs the user to a similar section as editing an existing beam with the exception of some blocks being disabled until a prior required step is completed. An in

depth explanation of each of these sections is defined in the “Structure of a Beam” section below.

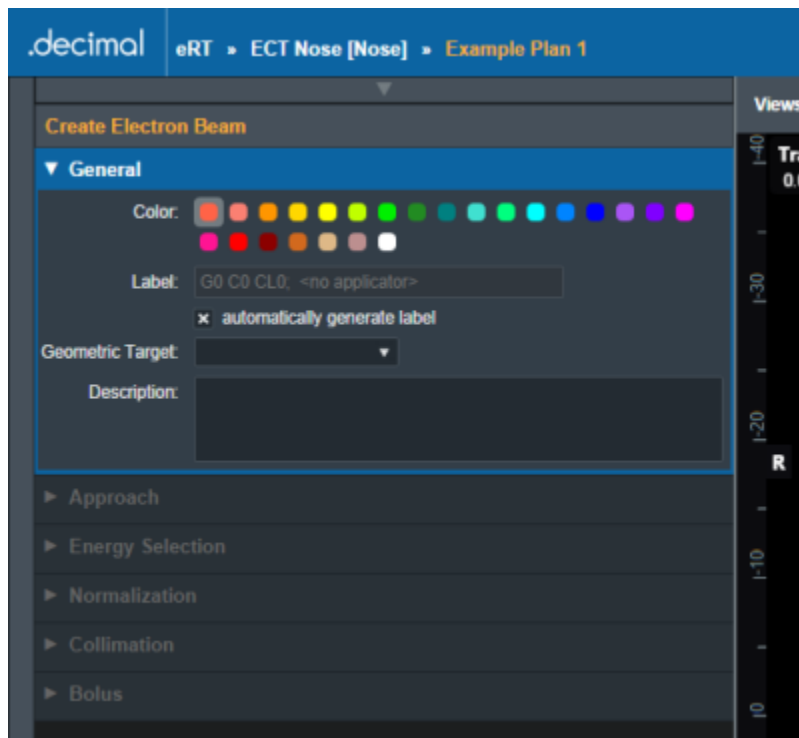


Fig. 1: Beams Block

Structure of a Beam

General

In the “General” Section of the Beams block allows the user to set the following fields for the beam:

- **Color:** Set the color for this beam, this is used for displays, graphs and beam lists in the User Interface.
- **Label:** Open the editing dialog to change any editable property of the beam. By default the “automatically generate label” option is enabled for new beams, un-selecting this option allows the user to manually name this beam.

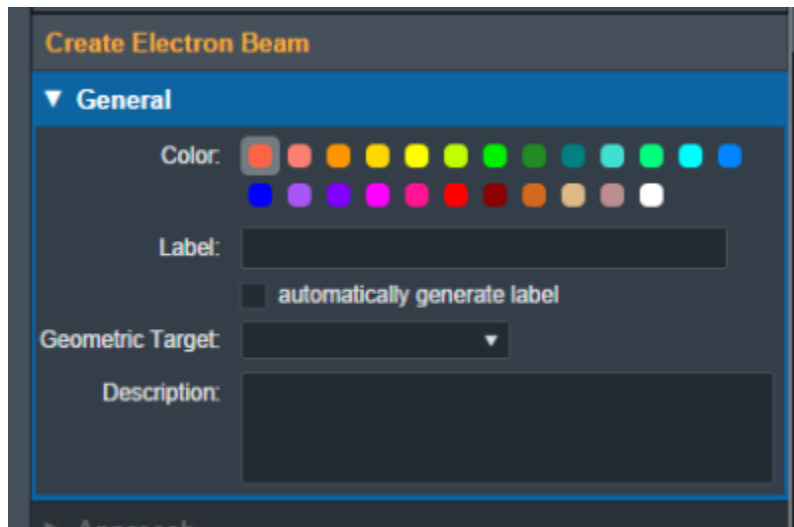


Fig. 1: Beams Block

- **Geometric Target:** Sets the target for this beam from a list of possible targets from the structure list.

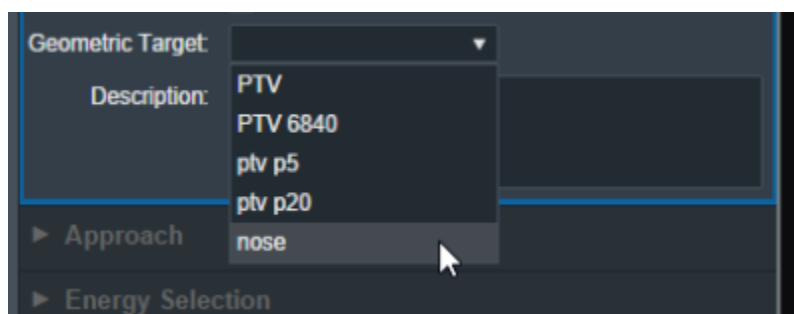


Fig. 1: Beams Block

Note: Once a target was selected for this beam you will see the UI update to match said selected target:



Fig. 1: Beams Block

- **Description:** An optional description for the beam.

Once the beam has a color, label, and target the user will be able to move on to the next block in the beam creation if this is a new beam.

Approach

The 'Approach' section contains several input fields for beam parameters:

- Gantry Angle: 340 deg
- Couch Angle: 285 deg
- Collimator Angle: 0 deg
- SSD: 100 cm
- Isocenter Shift: X: 0, Y: 0 cm

Below these are expandable sections:

- Energy Selection: energy: 9 MeV
- Normalization: ⚠ needs definition
- Collimation: applicator: 6x6, no skin collimator
- Bolus: none

Fig. 1: Beams Block

Energy Selection

The 'Energy Selection' section displays the following parameters:

- Planning Isodose: 90 %
- Beam Energy: 9 MeV (dropdown menu)
- Min Energy to Target: 9 MeV
- Max PTV Depth (WED): 1.53 cm (2.30 cm)
- R90: 2.83 cm

Fig. 1: Beams Block

The 'Beam Energy' dropdown menu is open, showing the following options:

- 9 MeV (selected)
- 6 MeV
- 9 MeV (highlighted)
- 12 MeV
- 16 MeV
- 20 MeV

The 'Normalization' section below shows a warning icon and the text 'needs definition'.

Fig. 1: Beams Block

Block

Bolus

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