

ROI 的剂量网格表示可通过

Patient.TreatmentPlans['plan name'].BeamSets['beamset name'].

FractionDose.GetDoseGridRoi(Roiname='Roi name')

获得，其下含有 4 个对象

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Help on dynamic ScriptObject
<ScriptObject id=-2147404762>
-----
| Composite data descriptors:
|
|   InDoseGrid -> ScriptObject
|
|   OfRoiGeometry -> ScriptObject
|
|   RoiVolumeDistribution -> ScriptObject
|
|   VersioningStatus -> ScriptObject
|
```

InDoseGrid 下属

```
-----
Help on dynamic ScriptObject
<ScriptObject id=-2147404805>
-----
| Data value descriptors:
|
|   Corner (get)
|       The corner position of the grid.
|
|   FrameOfReference (get)
|       Frame of reference of the DICOM patient system for which
|       coordinates of this dose grid are defined in.
|
|   NrVoxels (get)
|       Number of voxels.
|
|   VoxelSize (get)
|       Voxel size.
|
| -----
| Composite data descriptors:
|
|   DosePoints -> ScriptObject
|       A point list used to specify the coordinates for point doses.
|
```

OfRoiGeometry 下属

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Help on dynamic ScriptObject
<ScriptObject id=-2147405149, 'PTV'>
-----
| Composite data descriptors:
|
|   DicomImportHistory -> ScriptObject
|       Additional DICOM data related to this geometry from previous
|       DICOM imports.
|
|   OfRoi -> ScriptObject
|       Related ROI.
|
|   PrimaryShape -> ScriptObject
|       The shape specification of the geometry.
|
| -----
| Methods defined here:
|
|   DeleteGeometry()
|       Deletes the geometry of a RoiGeometry.
|
|   GetBoundingBox()
|       Gets the bounding box of the ROI geometry.
|       Returns:
|           The bounding box of the ROI geometry as an array of points
|           corresponding to min corner and max corner (in DICOM coordinates).
|
|   GetCenterOfRoi()
|       Gets the ROI center of mass.
|       Returns:
|           The center-of-mass of the ROI in DICOM coordinates.
|
|   GetRoiVolume()
|       Gets the ROI volume.
|       Returns:
|           Gets the ROI volume in cm^3.
|
|   HasContours()
|       Returns true if PrimaryShape has contours.
|       Returns:
|           True or False depending on if RoiGeometry.PrimaryShape
|           contains contours.
|

```

RoiVolumeDistribution 下属

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-----
Help on dynamic ScriptObject
<ScriptObject id=-2147404761>
-----
|   Data value descriptors:
|
|       RelativeVolumes (get/set)
|
|       TotalVolume (get/set)
|
|       VoxelIndices (get/set)
|
| -----
|   Composite data descriptors:
|
|       AlgorithmVersion -> ScriptObject
|

```

VersioningStatus 下属

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-----
Help on dynamic ScriptObject
<ScriptObject id=9ef73f96-c720-4cf2-9e7d-02abd9079412>
-----
|   Data value descriptors:
|
|       IsVersionSameAsCurrent (get)
|           True if algorithm used when calculating this object has the same
|           version as the current version, false otherwise.
|

```

Dose 数据的访问

Plandose=list(plan.TreatmentCourse.TotalDose.DoseValues.DoseData)，维数会很大

ROI 剂量网格测试

dgr=plan.TreatmentCourse.TotalDose.GetDoseGridRoi(RoiName=roi)

v=dgr.RoiVolumeDistribution.TotalVolume #总体积

indices = dgr.RoiVolumeDistribution.VoxelIndices #下标

relative_volumes = dgr.RoiVolumeDistribution.RelativeVolumes #维数和 indices 一致，体积