

Features

Local Image Features **Extraction** — **LIFEx** —

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Part I
Feature Definition

Chapter 1

Feature Definition

1.1 Definition

A feature is defined by the following structure:

CategoryName_FeatureName(ReferenceId)[Unit]

This structure is composed of the following elements:

1. CategoryName is the name of the category: this represents groups of features ; for example the different matrices for texture features;
2. _FeatureName is the name of the feature;
3. (ReferenceId) is the Image Biomarker Standardisation Initiative (IBSI) reference ID of the feature it exists;

1.2 Example

4. [Unit] is unit of the value of the feature.

1.2 Example

SUMMARY

BulkCentroidCoor(IBSI:no)[vx]

1. CategoryName is SUMMARY
2. FeatureName is BulkCentroidCoor
3. ReferenceId of IBSI does not exist
4. Unit is in voxel space



Part II
**Features involving
several ROIs**

Chapter 1

All ROIs (SUMMARY)

This section describes the features that arise from existing relationships between several ROIs. So you need more than one ROI before you can calculate them. For example, the Euclidean distance between 2 ROIs. These features use the patient's entire body to obtain overall results (rather than ROI-by-ROI texture results). These "whole body" features are grouped together under the SUMMARY category.

1.1 Bulk Distances

SUMMARY

_BulkVolume(IBSI:YEKZ)[mL]

Volume of the largest ROI in milliliter

SUMMARY

_BulkCentroidCoor(IBSI:no)[vx]

Centroid coordinates of the largest ROI

1.1 Bulk Distances

SUMMARY

_BulkCentroidCoor-RoiCentroidCoor-DistSum(IBSI:no)[cm]

Sum of distances between the largest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_BulkCentroidCoor-RoiCentroidCoor-DistMean(IBSI:no)[cm]

Mean distance between the largest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_BulkCentroidCoor-RoiCentroidCoor-DistStd(IBSI:no)[cm]

Standard deviation distance between the largest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_BulkCentroidCoor-RoiCentroidCoor-DistMin(IBSI:no)[cm]

Minimal distance between the largest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_BulkCentroidCoor-RoiCentroidCoor-DistMax(IBSI:no)[cm]

Maximal distance between the largest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_BulkWCentroidCoor(IBSI:no)[vx]

Weighted centroid coordinates of the largest ROI

SUMMARY

_BulkWCentroidCoor-RoiWCentroidCoor-DistSum(IBSI:no)[cm]

Sum of distances between the largest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_BulkWCentroidCoor-RoiWCentroidCoor-DistMean(IBSI:no)[cm]

Mean distance between the largest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_BulkWCentroidCoor-RoiWCentroidCoor-DistStd(IBSI:no)[cm]

Standard deviation distance between the largest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_BulkWCentroidCoor-RoiWCentroidCoor-DistMin(IBSI:no)[cm]

Minimal distance between the largest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

All ROIs
(SUMMARY)

SUMMARY**_BulkWCentroidCoor-RoiWCentroidCoor-DistMax(IBSI:no)[cm]**

Maximal distance between the largest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

1.2 Smallest Distances**All ROIs
(SUMMARY)****SUMMARY****_SmallestVolume(IBSI:YEKZ)[mL]**

Volume of the smallest ROI in milliliter

SUMMARY**_SmallestCentroidCoor(IBSI:no)[vx]**

Centroid coordinates of the smallest ROI

SUMMARY**_SmallestCentroidCoor-RoiCentroidCoor-DistSum(IBSI:no)[cm]**

Sum of distances between the smallest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY**_SmallestCentroidCoor-RoiCentroidCoor-DistMean(IBSI:no)[cm]**

Mean distance between the smallest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY**_SmallestCentroidCoor-RoiCentroidCoor-DistStd(IBSI:no)[cm]**

Standard deviation distance between the smallest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY**_SmallestCentroidCoor-RoiCentroidCoor-DistMin(IBSI:no)[cm]**

Minimal distance between the smallest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY**_SmallestCentroidCoor-RoiCentroidCoor-DistMax(IBSI:no)[cm]**

Maximal distance between the smallest ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY**_SmallestWCentroidCoor(IBSI:no)[vx]**

Weighted centroid coordinates of the smallest ROI

1.3 Other Distances

SUMMARY

_SmallestWCentroidCoor-RoiWCentroidCoor-DistSum(IBSI:no)[cm]

Sum of distances between the smallest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_SmallestWCentroidCoor-RoiWCentroidCoor-DistMean(IBSI:no)[cm]

Mean distance between the smallest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_SmallestWCentroidCoor-RoiWCentroidCoor-DistStd(IBSI:no)[cm]

Standard deviation distance between the smallest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_SmallestWCentroidCoor-RoiWCentroidCoor-DistMin(IBSI:no)[cm]

Minimal distance between the smallest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_SmallestWCentroidCoor-RoiWCentroidCoor-DistMax(IBSI:no)[cm]

Maximal distance between the smallest ROI and all other ROIs (from weighted centroid coordinates of ROIs)

1.3 Other Distances

SUMMARY

_Dmax(IBSI:no)[cm]

Distance between the two ROIs that are the furthest apart (with centroid coordinates)

SUMMARY

_DmaxVox(IBSI:no)[cm]

Distance between the two ROIs that are the furthest apart (with the outermost voxel)

SUMMARY

_BulkDmax(IBSI:no)[cm]

Maximal distance between the largest ROI (bulk) and all others (with centroid coordinates)

SUMMARY

_Volume-DiffSum(IBSI:no)[mL]

Sum of the differences in volume between all pairs of ROIs

SUMMARY

_Bulk-Volume-DiffSum(IBSI:no)[mL]

Sum of the differences in volume between the largest ROI and all other ROIs

All ROIs
(SUMMARY)

SUMMARY**_BulkSmallest-Volume-Diff(IBSI:no)[mL]**

Volume difference in milliliter between the largest and the smallest ROIs

1.4 Intensity Differences**All ROIs
(SUMMARY)****SUMMARY****_HighestLowest-MaxIntensity-Diff(IBSI:no)[Intensity]**

Difference in max intensity between the ROI with the highest max intensity and the ROI with the lowest max intensity

SUMMARY**_MaxIntensity-DiffSum(IBSI:no)[Intensity]**

Sum of the differences in max intensity of all pairs of ROIs

SUMMARY**_BulkLowest-MaxIntensity-Diff(IBSI:no)[Intensity]**

Difference in max intensity between the largest ROI and the minimum of all max intensity of other ROIs

SUMMARY**_Bulk-MaxIntensity-DiffSum(IBSI:no)[Intensity]**

Sum of the differences in max intensity between the largest ROI and all other ROIs

SUMMARY**_Highest-MaxIntensity-DiffSum(IBSI:no)[Intensity]**

Sum of the differences in max intensity between the ROI with the highest max intensity and all max intensities of other ROIs

SUMMARY**_HighestLowest-PeakIntensity-Diff(IBSI:no)[Intensity]**

Difference in peak intensity between the ROI with the highest peakIntensity and the ROI with the lowest peak intensity

SUMMARY**_PeakIntensity-DiffSum(IBSI:no)[Intensity]**

Sum of the differences in peak intensity of all pairs of ROIs

SUMMARY**_BulkLowest-PeakIntensity-Diff(IBSI:no)[Intensity]**

Differences of peak intensity between the largest and the minimum of all peak intensity of other ROIs

1.4 Intensity Differences

SUMMARY

_Bulk-PeakIntensity-DiffSum(IBSI:no)[Intensity]

Sum of the differences in peak intensity between the largest ROI and all other ROIs

SUMMARY

_Highest-PeakIntensity-DiffSum(IBSI:no)[Intensity]

Sum of the differences in peak intensity between the ROI with the highest peak intensity and all peak intensities of other ROIs

All ROIs
(SUMMARY)

SUMMARY

_MeanIntensity-Sum(IBSI:no)[Intensity]

Sum of the mean intensity of all ROIs

SUMMARY

_MinIntensity-Min(IBSI:no)[Intensity]

Minimum of the minimum intensity of all ROIs

SUMMARY

_MeanIntensity-Min(IBSI:no)[Intensity]

Minimum of the mean intensity of all ROIs

SUMMARY

_StdvIntensity-Min(IBSI:no)[Intensity]

Minimum of the standard deviation intensity of all ROIs

SUMMARY

_MaxIntensity-Min(IBSI:no)[Intensity]

Minimum of the maximum intensity of all ROIs

SUMMARY

_MinIntensity-Max(IBSI:no)[Intensity]

Maximum of the minimum intensity of all ROIs

SUMMARY

_MeanIntensity-Max(IBSI:no)[Intensity]

Maximum of the mean intensity of all ROIs

SUMMARY

_StdIntensity-Max(IBSI:no)[Intensity]

Maximum of the standard deviation intensity of all ROIs

SUMMARY

_MaxIntensity-Max(IBSI:no)[Intensity]

Maximum of the maximum intensity of all ROIs

SUMMARY

_PeakIntensity-Max(IBSI:no)[Intensity]
Maximum of the peak intensity of all ROIs

1.5 Volume Differences

All ROIs
(SUMMARY)

SUMMARY

_Volume-Sum(IBSI:no)[mL]
Sum of the volumes of all ROIs (in milliliter unit) (MetabolicTotalVolume(MTV) for MN)

SUMMARY

_WeightNorm-Volume-Sum(IBSI:no)[mL/Kg]
Sum of the volumes of all ROIs divided by patient weight

SUMMARY

_VolumeIntensity-Sum(IBSI:no)[Intensity*mL]
Sum of the volumes of voxels multiplied by the intensities of voxels of all ROIs (TotalLesionGlycolysis (TLG) for FDG PET)

SUMMARY

_WeightNorm-VolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]
Sum of the volumes of voxels multiplied by the intensities of voxels of all ROIs and divided by patient weight

SUMMARY

_Intensity-Sum(IBSI:no)[Intensity]
Sum of the mean intensities of voxels of ROIs

1.6 CentroidCoor Distances**SUMMARY**

_RoiCentroidCoor-DistSum(IBSI:no)[cm]
Sum of distances (from centroid coordinates) between all possible pairs of ROIs

SUMMARY

_RoiCentroidCoor-DistSumMax(IBSI:no)[cm]
Maximum over all possible reference ROI of the sum of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_RoiCentroidCoor-DistMeanMax(IBSI:no)[cm]
Maximum over all possible reference ROI of the mean of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

1.7 WCentroidCoor Distances

SUMMARY

_RoiCentroidCoor-DistStdMax(IBSI:no)[cm]

Maximum over all possible reference ROI of the standard deviation of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_RoiCentroidCoor-DistMinMax(IBSI:no)[cm]

Maximum over all possible reference ROI of the minimum of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_RoiCentroidCoor-DistMinMin(IBSI:no)[cm]

Minimum over all possible reference ROI of the minimum of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_RoiCentroidCoor-DistMaxMax(IBSI:no)[cm]

Maximum over all possible reference ROI of the maximum of distances between the reference ROI and all other ROIs (from centroid coordinates of ROIs)

SUMMARY

_AllRoiCentroidCoor-DistMeanMax(IBSI:no)[cm]

Maximum of mean of distance between all ROIs = Max (Sum (all dist of CentroidCoor / (n * (n-1) / 2)))

SUMMARY

_AllRoiCentroidCoor-DistMeanMin(IBSI:no)[cm]

Minimum of mean of distance between all ROIs = Min (Sum (all dist of CentroidCoor / (n * (n-1) / 2)))

1.7 WCentroidCoor Distances

SUMMARY

_RoiWCentroidCoor-DistSum(IBSI:no)[cm]

Sum of distances (from weighted centroid coordinates) between all possible pairs of ROIs

SUMMARY

_RoiWCentroidCoor-DistSumMax(IBSI:no)[cm]

Maximum over all possible reference ROI of the sum of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY

_RoiWCentroidCoor-DistMeanMax(IBSI:no)[cm]

Maximum over all possible reference ROI of the mean of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

All ROIs
(SUMMARY)

SUMMARY**_RoiWCentroidCoor-DistStdMax(IBSI:no)[cm]**

Maximum over all possible reference ROI of the standard deviation of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY**_RoiWCentroidCoor-DistMinMax(IBSI:no)[cm]**

Maximum over all possible reference ROI of the minimum of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY**_RoiWCentroidCoor-DistMinMin(IBSI:no)[cm]**

Minimum over all possible reference ROI of the minimum of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY**_RoiWCentroidCoor-DistMaxMax(IBSI:no)[cm]**

Maximum over all possible reference ROI of the maximum of distances between the reference ROI and all other ROIs (from weighted centroid coordinates of ROIs)

SUMMARY**_AllRoiWCentroidCoor-DistMeanMax(IBSI:no)[cm]**

Maximum of mean of distance between all ROIs = Max (Sum (all dist of weighted centroid coordinates / (n * (n-1) / 2)))

SUMMARY**_AllRoiWCentroidCoor-DistMeanMin(IBSI:no)[cm]**

Minimum of mean of distance between all ROIs = Min (sum (all dist of weighted centroid coordinates / (n * (n-1) / 2)))

1.8 Quarter Distances**SUMMARY****_TLVolume-Sum(IBSI:no)[mL]**

Sum in milliliters of volume of all ROIs in the Top Left quarter (if quarter segmentation is classified)

SUMMARY**_TRVolume-Sum(IBSI:no)[mL]**

Sum in milliliters of volume of all ROIs in the Top Right quarter (if quarter segmentation is classified)

SUMMARY**_BLVolume-Sum(IBSI:no)[mL]**

Sum in milliliters of volume of all ROIs in the Bottom Left quarter (if quarter segmentation is classified)

**All ROIs
(SUMMARY)**

1.8 Quarter Distances

SUMMARY

_BRVolume-Sum(IBSI:no)[mL]

Sum in milliliters of volume of all ROIs in the Bottom right quarter (if quarter segmentation is classified)

SUMMARY

_NAVVolume-Sum(IBSI:no)[mL]

Sum in milliliters of volume of all ROIs not classified in a quarter

SUMMARY

_WeightNorm-TLVolume-Sum(IBSI:no)[mL/Kg]

Weight-normalized sum in voxels of volume of all ROIs in the Top Left quarter (if quarter segmentation is classified)

SUMMARY

_WeightNorm-TRVolume-Sum(IBSI:no)[mL/Kg]

Weight-normalized sum in voxels of volume of all ROIs in the Top Right quarter (if quarter segmentation is classified)

SUMMARY

_WeightNorm-BLVolume-Sum(IBSI:no)[mL/Kg]

Weight-normalized sum in voxels of volume of all ROIs in the Bottom Left quarter (if quarter segmentation is classified)

SUMMARY

_WeightNorm-BRVolume-Sum(IBSI:no)[mL/Kg]

Weight-normalized sum in voxels of volume of all ROIs in the Bottom Right quarter (if quarter segmentation is classified)

SUMMARY

_WeightNorm-NAVVolume-Sum(IBSI:no)[mL/Kg]

Weight-normalized sum in voxels of volume of all ROIs not classified in a quarter

SUMMARY

_TLVolumeIntensity-Sum(IBSI:no)[Intensity*mL]

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Top Left quarter (if quarter segmentation is classified)

SUMMARY

_TRVolumeIntensity-Sum(IBSI:no)[Intensity*mL]

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Top Right quarter (if quarter segmentation is classified)

SUMMARY**_BLVolumeIntensity-Sum(IBSI:no)[Intensity*mL]**

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Bottom Left quarter (if quarter segmentation is classified)

SUMMARY**_BRVolumeIntensity-Sum(IBSI:no)[Intensity*mL]**

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Bottom Right quarter (if quarter segmentation is classified)

All ROIs
(SUMMARY)

SUMMARY**_NAVVolumeIntensity-Sum(IBSI:no)[Intensity*mL]**

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs not classified in a quarter

SUMMARY**_WeightNorm-TLVolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]**

Weight-normalized sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Top Left quarter (if quarter segmentation is classified)

SUMMARY**_WeightNorm-TRVolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]**

Weight-normalized sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Top Right quarter (if quarter segmentation is classified)

SUMMARY**_WeightNorm-BLVolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]**

Weight-normalized sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Bottom Left quarter (if quarter segmentation is classified)

SUMMARY**_WeightNorm-BRVolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]**

Weight-normalized sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs in the Bottom Right quarter (if quarter segmentation is classified)

SUMMARY**_WeightNorm-NAVVolumeIntensity-Sum(IBSI:no)[Intensity*mL/Kg]**

Weight-normalized sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs not classified in a quarter

Chapter 2

Features involving two ROIs

2.1 Intersection

SUMMARY

`_Roi1IntersectionWithRoi0(IBSI:no)[vx]`

Number of voxels common to roi0 and roi1 (roi1 intersection roi0)

SUMMARY

`_Roi1IntersectionNotRoi0(IBSI:no)[vx]`

Number of voxels of roi1 that are not in roi0

2.2 Union

SUMMARY

`_Roi1UnionWithRoi0(IBSI:no)[vx]`

Number of voxels in roi1 union roi0

2.3 Volume Ratio

2.3 Volume Ratio

SUMMARY

_VolumeRatio(IBSI:no)[ratio]

Number of voxels in roi1 / number of voxel in roi0

SUMMARY

_CommonDelineatedVolume(IBSI:no)[ratio]

Number of voxels common to roi0 and roi1 / number of voxel in roi0

SUMMARY

_AdditionalDelineatedVolume(IBSI:no)[ratio]

Number of voxels in roi1 that are not in roi0 / number of voxel in roi0

Two ROIs
(SUMMARY)

SUMMARY

_DiceSimilarityCoefficient(IBSI:no)[ratio]

Dice similarity coefficient

SUMMARY

_OverlapIndex_JaccardCoefficient(IBSI:no)[ratio]

Jaccard similarity coefficient

2.4 Distance Differences

SUMMARY

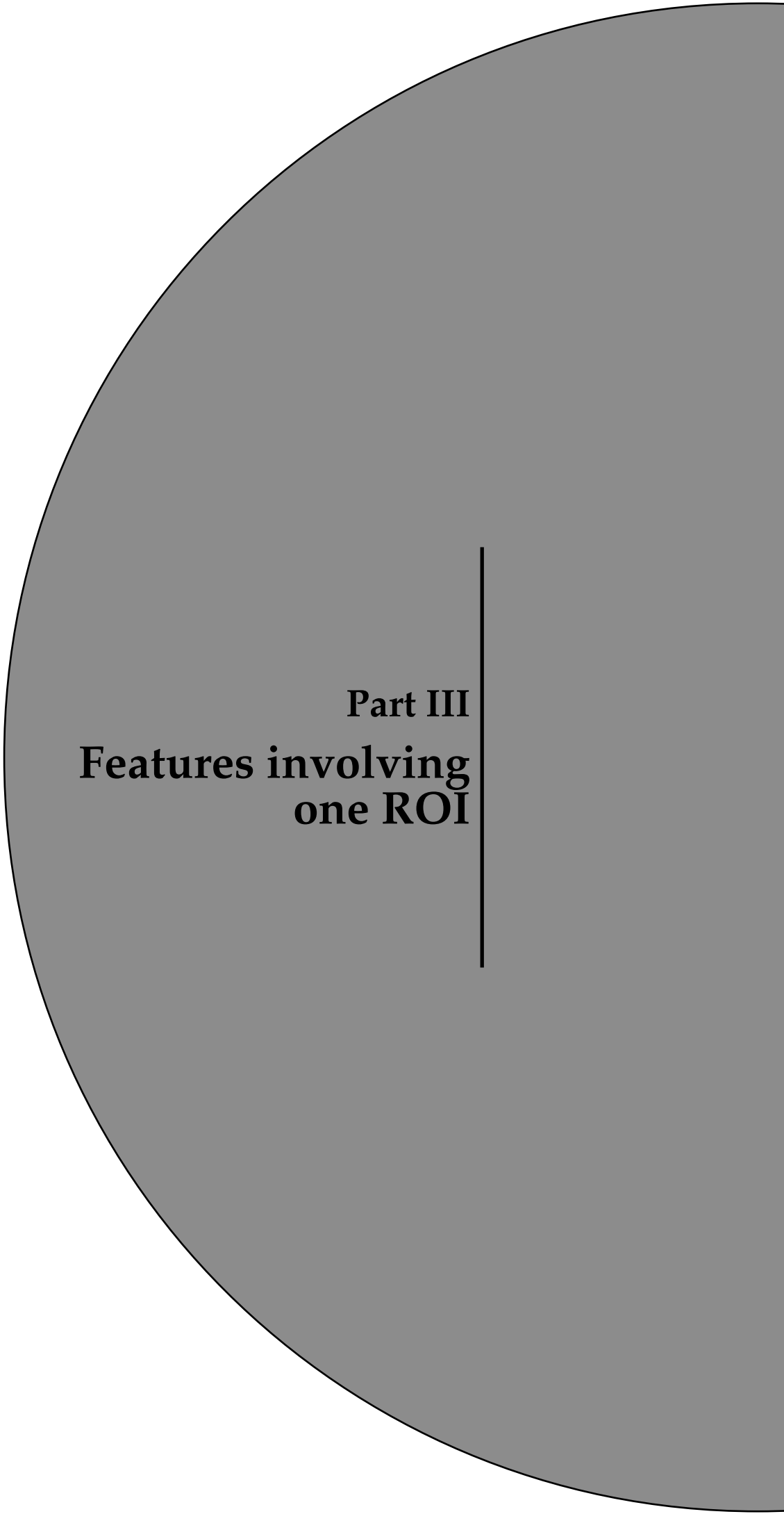
_Max3DDiameterOfUnion(IBSI:no)[mm]

Maximal diameter of the roi1 union roi0

SUMMARY

_HausdorffDistance(IBSI:no)[mm]

Hausdorff distance between roi1 and roi0



Part III
**Features involving
one ROI**

Chapter 1

Morphological

1.1 Morphological

MORPHOLOGICAL
_Volume(IBSI:RNU0)[mL]
see IBSI definition

MORPHOLOGICAL
_ApproximateVolume(IBSI:YEKZ)[vx]
see IBSI definition

MORPHOLOGICAL
_VoxelsCounting(IBSI:No)[vx]

1.1 Morphological

Number of voxels in the ROI

MORPHOLOGICAL

_SurfaceArea(IBSI:C0JK)[cm2]

see IBSI definition

MORPHOLOGICAL

_SurfaceToVolumeRatio(IBSI:2PR5)[cm-1]

see IBSI definition

MORPHOLOGICAL

_Compacity(IBSI:No)[]

Surface at power 3/2 divided by the volume

MORPHOLOGICAL

_Compactness1(IBSI:SKGS)[]

see IBSI definition

MORPHOLOGICAL

_Compactness2(IBSI:BQWJ)[]

see IBSI definition

Morphological

MORPHOLOGICAL

_SphericalDisproportion(IBSI:KRCK)[]

see IBSI definition

MORPHOLOGICAL

_Sphericity(IBSI:QCFX)[]

see IBSI definition

MORPHOLOGICAL

_Asphericity(IBSI:25C7)[]

see IBSI definition

MORPHOLOGICAL

_MaxIntensityCoord(IBSI:No)[vx]

Maximal intensity coordinates

MORPHOLOGICAL

_CentroidCoord(IBSI:No)[vx]

Centroid coordinates

MORPHOLOGICAL

_WCentroidCoord(IBSI:No)[vx]

Weighted intensity centroid coordinates

MORPHOLOGICAL**_RoiCentroidCoor-DistSum(IBSI:No)[cm]**

Sum of distances of the selected ROI and all other ROIs (from CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiCentroidCoor-DistMean(IBSI:No)[cm]**

Mean of distances of the selected ROI and all other ROIs (from CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiCentroidCoor-DistStd(IBSI:No)[cm]**

Standard deviation of distances of the selected ROI and all other ROIs (from CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiCentroidCoor-DistMin(IBSI:No)[cm]**

Minimum of distances of the selected ROI and all other ROIs (from CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiCentroidCoor-DistMax(IBSI:No)[cm]**

Maximum of distances of the selected ROI and all other ROIs (from CentroidCoor of ROIs)

Morphological

MORPHOLOGICAL**_RoiWCentroidCoor-DistSum(IBSI:No)[cm]**

Sum of distances of the selected ROI and all other ROIs (from weighted intensity of CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiWCentroidCoor-DistMean(IBSI:No)[cm]**

Mean of distances of the selected ROI and all other ROIs (from weighted intensity of CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiWCentroidCoor-DistStd(IBSI:No)[cm]**

Standard deviation of distances of the selected ROI and all other ROIs (from weighted intensity of CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiWCentroidCoor-DistMin(IBSI:No)[cm]**

Minimum of distances of the selected ROI and all other ROIs (from weighted intensity of CentroidCoor of ROIs)

MORPHOLOGICAL**_RoiWCentroidCoor-DistMax(IBSI:No)[cm]**

Maximum of distances of the selected ROI and all other ROIs (from weighted intensity of CentroidCoor of ROIs)

1.1 Morphological

MORPHOLOGICAL

_MaxIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[cm]

Distance between the MaxIntensity coordinates and the centroid coordinates

MORPHOLOGICAL

_RadiusSphereNorm-MaxIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[]

"Distance between the MaxIntensity coordinates and the centroid coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

_RadiusRoiNorm-MaxIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[]

"Distance between the MaxIntensity coordinates and the centroid coordinates" normalized with the maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL

_PeakIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[cm]

Distance between the PeakIntensity coordinates and the centroid coordinates

MORPHOLOGICAL

_RadiusSphereNorm-PeakIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[]

"Distance between the PeakIntensity coordinates and the centroid coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

_RadiusRoiNorm-PeakIntensityCoor-RoiCentroidCoor-Dist(IBSI:No)[]

"Distance between the PeakIntensity coordinates and the centroid coordinates" normalized with the maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL

_CentreOfMassShift(IBSI:KLMA)[mm]

Distance between the centroid coordinates and the centre of Intensity * Volume centroid coordinates

MORPHOLOGICAL

_RadiusSphereNorm-CentroidCoor-WCentroidCoor-Dist(IBSI:No)[]

"Distance between the centroid coordinates and the centre of Intensity * Volume centroid coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

_RadiusRoiNorm-CentroidCoor-WCentroidCoor-Dist(IBSI:No)[]

"Distance between the centroid coordinates and the centre of Intensity*Volume centroid coordinates" normalized with the maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL**_MaxIntensityCoor-PerimeterCoor-3DSmallestDist(IBSI:No)[mm]**

Smallest distance of the maximal intensity coordinates and the perimeter coordinates

MORPHOLOGICAL**_RadiusSphereNorm-MaxIntensityCoor-PerimeterCoor-3DSmallestDist(IBSI:No)[]**

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL**_RadiusRoiNorm-MaxIntensityCoor-PerimeterCoor-3DSmallestDist(IBSI:No)[]**

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates" normalized with the maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL**_MaxIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[mm]**

Smallest distance of the maximal intensity coordinates and the perimeter coordinates of axial slice setting at maximal intensity coordinates

Morphological

MORPHOLOGICAL**_RadiusSphereNorm-MaxIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[]**

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of axial slice setting at maximal intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL**_RadiusRoiNorm-MaxIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[]**

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of axial slice setting at maximal intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL**_MaxIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[mm]**

Smallest distance of the maximal intensity coordinates and the perimeter coordinates of coronal slice setting at maximal intensity coordinates

1.1 Morphological

MORPHOLOGICAL

`_RadiusSphereNorm-MaxIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[]`

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of coronal slice setting at maximal intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

`_RadiusRoiNorm-MaxIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[]`

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of coronal slice setting at maximal intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL

`_MaxIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[mm]`

Smallest distance of the maximal intensity coordinates and the perimeter coordinates of sagittal slice setting at maximal intensity coordinates

MORPHOLOGICAL

`_RadiusSphereNorm-MaxIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[]`

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of sagittal slice setting at maximal intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

`_RadiusRoiNorm-MaxIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[]`

"Smallest distance of the maximal intensity coordinates and the perimeter coordinates of sagittal slice setting at maximal intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL

`_PeakIntensityCoor-PerimeterCoor-3DSmallestDist(IBSI:No)[mm]`

Smallest distance of the peak intensity coordinates and the perimeter coordinates

MORPHOLOGICAL

`_RadiusSphereNorm-PeakIntensityCoor-PerimeterCoor-3DSmallestDist(IBSI:No)[]`

"Smallest distance of the peak intensity coordinates and the perimeter coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL**_RadiusRoiNorm-PeakIntensityCoor-PerimeterCoor-3DsmallestDist(IBSI:No)[]**

"Smallest distance of the peak intensity coordinates and the perimeter coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

MORPHOLOGICAL**_PeakIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[mm]**

Smallest distance of the peak intensity coordinates and the perimeter coordinates of axial slice setting at peak intensity coordinates

MORPHOLOGICAL**_RadiusSphereNorm-PeakIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[]**

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of axial slice setting at peak intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL**_RadiusRoiNorm-PeakIntensityCoor-PerimeterCoor-2DAxialSmallestDist(IBSI:No)[]**

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of axial slice setting at peak intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

Morphological

MORPHOLOGICAL**_PeakIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[mm]**

Smallest distance of the peak intensity coordinates and the perimeter coordinates of coronal slice setting at peak intensity coordinates

MORPHOLOGICAL**_RadiusSphereNorm-PeakIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[]**

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of coronal slice setting at peak intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL**_RadiusRoiNorm-PeakIntensityCoor-PerimeterCoor-2DCoronalSmallestDist(IBSI:No)[]**

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of coronal slice setting at peak intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

1.1 Morphological

MORPHOLOGICAL

`_PeakIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[mm]`

Smallest distance of the peak intensity coordinates and the perimeter coordinates of sagittal slice setting at peak intensity coordinates

MORPHOLOGICAL

`_RadiusSphereNorm-PeakIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[mm]`

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of sagittal slice setting at peak intensity coordinates" normalized with the radius of a sphere with same volume

MORPHOLOGICAL

`_RadiusRoiNorm-PeakIntensityCoor-PerimeterCoor-2DSagittalSmallestDist(IBSI:No)[mm]`

"Smallest distance of the peak intensity coordinates and the perimeter coordinates of sagittal slice setting at peak intensity coordinates" normalized with maximal radius, where the maximal radius is the largest distance between two voxels belonging to the ROI perimeter divided by 2

Morphological

MORPHOLOGICAL

`_Maximum3DDiameter(IBSI:L0JK)[mm]`

Maximum 3D diameter

MORPHOLOGICAL

`_SphereDiameter(IBSI:No)[mm]`

Diameter of sphere with equal volume

MORPHOLOGICAL

`_IntegratedIntensity(IBSI:99N0)[Intensity]`

Sum of intensity of all voxels

Chapter 2 (Local) Intensity-based

2.1 Intensity-based

INTENSITY-BASED

`_MeanIntensity(IBSI:Q4LE)[SUV]`

see IBSI definition

INTENSITY-BASED

`_IntensityVariance(IBSI:ECT3)[SUV*SUV]`

see IBSI definition

INTENSITY-BASED

`_IntensitySkewness(IBSI:KE2A)[]`

see IBSI definition

2.1 Intensity-based

INTENSITY-BASED

_IntensityKurtosis(IBSI:IPH6)[]
see IBSI definition

INTENSITY-BASED

_MedianIntensity(IBSI:Y12H)[SUV]
see IBSI definition

INTENSITY-BASED

_MinimumIntensity(IBSI:1GSF)[SUV]
see IBSI definition

INTENSITY-BASED

_10thIntensityPercentile(IBSI:QG58)[]
see IBSI definition

INTENSITY-BASED

_25thIntensityPercentile(IBSI:No)[]
see IBSI definition

INTENSITY-BASED

_50thIntensityPercentile(IBSI:Y12H)[]
see IBSI definition

INTENSITY-BASED

_75thIntensityPercentile(IBSI:No)[]
see IBSI definition

INTENSITY-BASED

_90thIntensityPercentile(IBSI:8DWT)[]
see IBSI definition

INTENSITY-BASED

_StandardDeviation(IBSI:No)[SUV]
see IBSI definition

INTENSITY-BASED

_MaximumIntensity(IBSI:84IY)[SUV]
see IBSI definition

INTENSITY-BASED

_IntensityInterquartileRange(IBSI:SALO)[SUV]
see IBSI definition

INTENSITY-BASED

_IntensityRange(IBSI:2OJQ)[SUV]
see IBSI definition

(Local)
Intensity-based

INTENSITY-BASED**_IntensityBasedMeanAbsoluteDeviation(IBSI:4FUA)[]**

see IBSI definition

INTENSITY-BASED**_IntensityBasedRobustMeanAbsoluteDeviation(IBSI:1128)[]**

see IBSI definition

INTENSITY-BASED**_IntensityBasedMedianAbsoluteDeviation(IBSI:N72L)[]**

see IBSI definition

INTENSITY-BASED**_IntensityBasedCoefficientOfVariation(IBSI:7TET)[]**

see IBSI definition

INTENSITY-BASED**_IntensityBasedQuartileCoefficientOfDispersion(IBSI:9S40)[]**

see IBSI definition

INTENSITY-BASED**_AreaUnderCurveCIVH(IBSI:No)[SUV]**

Area under the curve of cumulative intensity volume histogram

INTENSITY-BASED**_IntensityBasedEnergy(IBSI:N8CA)[]**

see IBSI definition

INTENSITY-BASED**_RootMeanSquareIntensity(IBSI:5ZWQ)[]**

see IBSI definition

INTENSITY-BASED**_IntensityVolumeSum(IBSI:No)[Intensity*mL]**

Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs (is the TotalLesionGlycolysis (TLG) for FDG PET)

INTENSITY-BASED**_WeightNorm-IntensityVolumeSum(IBSI:No)[Intensity*mL/Kg]**

Weight-normalized Sum of the VoxelVolume multiplied by the VoxelIntensity of all ROIs (is the Weight-normalized-TotalLesionGlycolysis (sTLG) for FDG PET)

INTENSITY-BASED**_TotalCalciumScore(OnlyOnCT, IBSI:No)[]**

Total calcium score calculated only on CT is the weighted density score (1,2,3,4) given to the highest attenuation value (130-199HU, 200-299HU, 300-399HU, >400HU) multiply by thickness slice in mm

**(Local)
Intensity-based**

2.2 Local Intensity-based

LOCAL_INTENSITY_BASED

_IntensityPeakDiscretizedVolumeSought(IBSI:No)[mL]

Used discretized volume of the peak sphere (approximating 1 mL)

LOCAL_INTENSITY_BASED

_GlobalIntensityPeak(IBSI:0F91)[Intensity]

Mean intensity of the discretized peak sphere located in the ROI and maximizing mean intensity with maximum mean intensity in ROI (from based-intensity)

LOCAL_INTENSITY_BASED

_LocalIntensityPeak(IBSI:VJGA)[Intensity]

Mean intensity of the discretized peak sphere centered on the voxel with maximum intensity in the ROI (from based-intensity)

2.3 RIM Intensity-based

INTENSITY-BASED

_RIM-IntensityMin(IBSI:No)[Intensity]

Minimum voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-IntensityMean(IBSI:No)[Intensity]

Mean voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-IntensityStd(IBSI:No)[Intensity]

Standard deviation of voxel values from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-IntensityMax(IBSI:No)[Intensity]

Maximum voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-CountingVoxels(IBSI:No)[vx]

Volume in voxel unit of all voxels from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-ApproximateVolume(IBSI:No)[mL]

Volume in milliliter unit of all voxels from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

INTENSITY-BASED

_RIM-IntensitySum(IBSI:No)[Intensity]

Sum of voxel values from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from based-intensity)

Chapter 3

(Local) Intensity Histogram

3.1 Intensity Histogram

INTENSITY-HISTOGRAM

`_IntensityHistogramMean(IBSI:X6K6)[Intensity]`
see IBSI definition

INTENSITY-HISTOGRAM

`_IntensityHistogramVariance(IBSI:CH89)[Intensity]`
see IBSI definition

INTENSITY-HISTOGRAM

`_IntensityHistogramSkewness(IBSI:88K1)[Intensity]`

3.1 Intensity Histogram

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramKurtosis(IBSI:C3I7)[Intensity]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramMedian(IBSI:WIFQ)[Intensity]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramMinimumGreyLevel(IBSI:1PR8)[Intensity]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogram10thPercentile(IBSI:GPMT)[]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogram25thPercentile(IBSI:No)[]

Lower quartile or the 25th empirical percentile (from discretized-intensity)

INTENSITY-HISTOGRAM

_IntensityHistogram50thPercentile(IBSI:No)[]

Middle quartile or the 50th empirical percentile (from discretized-intensity)

INTENSITY-HISTOGRAM

_IntensityHistogram75thPercentile(IBSI:No)[]

Upper quartile or the 75th empirical percentile (from discretized-intensity)

INTENSITY-HISTOGRAM

_IntensityHistogram90thPercentile(IBSI:OZ0C)[]

see IBSI definition

(Local) Intensity Histogram

INTENSITY-HISTOGRAM

_IntensityHistogramStd(IBSI:No)[Intensity]

Standard deviation of signal intensity in ROI (from discretized-intensity)

INTENSITY-HISTOGRAM

_IntensityHistogramMaximumGreyLevel(IBSI:3NCY)[Intensity]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramMode(IBSI:AMMC)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramInterquartileRange(IBSI:WR0O)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramRange(IBSI:5Z3W)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramMeanAbsoluteDeviation(IBSI:D2ZX)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramRobustMeanAbsoluteDeviation(IBSI:WRZB)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramMedianAbsoluteDeviation(IBSI:4RNL)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramCoefficientOfVariation(IBSI:CWYJ)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramQuartileCoefficientOfDispersion(IBSI:SLWD)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_IntensityHistogramEntropyLog10(IBSI:No)[SUV]

Log10 value conversion of INTENSITY-HISTOGRAM_IntensityHistogramEntropyLog2 feature

INTENSITY-HISTOGRAM

_IntensityHistogramEntropyLog2(IBSI:TLU2)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_AreaUnderCurveCIVH(IBSI:No)[SUV]

Area under the curve of cumulative intensity volume histogram

INTENSITY-HISTOGRAM

_Uniformity(IBSI:BJ5W)[SUV]

see IBSI definition

INTENSITY-HISTOGRAM

_RootMeanSquare(IBSI:No)[SUV]

Root mean square of histogram (from discretized-intensity)

INTENSITY-HISTOGRAM

_MaximumHistogramGradient(IBSI:12CE)[SUV]

see IBSI definition

(Local) Intensity Histogram

3.2 Local Intensity Histogram

INTENSITY-HISTOGRAM

_MaximumHistogramGradientGreyLevel(IBSI:8E6O)[SUV]
see IBSI definition

INTENSITY-HISTOGRAM

_MinimumHistogramGradient(IBSI:VQB3)[SUV]
see IBSI definition

INTENSITY-HISTOGRAM

_MinimumHistogramGradientGreyLevel(IBSI:RHQZ)[SUV]
see IBSI definition

3.2 Local Intensity Histogram

LOCAL-INTENSITY-HISTOGRAM

_IntensityPeakDiscretizedVolumeSought(IBSI:No)[mL]
Used discretized volume of the peak sphere (approximating 1 mL)

LOCAL-INTENSITY-HISTOGRAM

_GlobalIntensityPeak(IBSI:No)[Intensity]
Mean intensity of the discretized peak sphere located in the ROI and maximizing mean intensity with maximum mean intensity in ROI (from discretized-intensity)

LOCAL-INTENSITY-HISTOGRAM

_LocalIntensityPeak(IBSI:No)[Intensity]
Mean intensity of the discretized peak sphere centered on the voxel with maximum intensity in the ROI (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-IntensityMin(IBSI:No)[Intensity]
Minimum voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-IntensityMean(IBSI:No)[Intensity]
Mean voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-IntensityStd(IBSI:No)[Intensity]
Standard deviation of voxel values from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-IntensityMax(IBSI:No)[Intensity]

Maximum voxel value from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-CountingVoxels(IBSI:No)[vx]

Volume in voxel unit of all voxels from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-ApproximateVolume(IBSI:No)[mL]

Volume in milliliter of all voxels from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

INTENSITY-HISTOGRAM

_RIM-IntensitySum(IBSI:No)[Intensity]

Sum of voxel values from the envelopes (envelope is the radial intensity mean of successive layers of voxels from the outside of the region to the inside) (from discretized-intensity)

Chapter 4

Texture

4.1 GLCM

GLCM

`_JointMaximum(IBSI:GYBY)[]`

see IBSI definition

GLCM

`_JointAverage(IBSI:60VM)[]`

see IBSI definition

GLCM

`_JointVariance(IBSI:UR99)[]`

4.1 GLCM

see IBSI definition

GLCM

_JointEntropyLog2(IBSI:TU9B)[]

see IBSI definition

GLCM

_JointEntropyLog10(IBSI:No)[]

Log10 value conversion of GLCM_JointEntropyLog2 feature

GLCM

_DifferenceAverage(IBSI:TF7R)[]

see IBSI definition

GLCM

_DifferenceVariance(IBSI:D3YU)[]

see IBSI definition

GLCM

_DifferenceEntropy(IBSI:NTRS)[]

see IBSI definition

GLCM

_SumAverage(IBSI:ZGXS)[]

see IBSI definition

GLCM

_SumVariance(IBSI:OEED)[]

see IBSI definition

GLCM

_SumEntropy(IBSI:P6QZ)[]

see IBSI definition

GLCM

_AngularSecondMoment(IBSI:8ZQL)[]

see IBSI definition

GLCM

_Contrast(IBSI:ACUI)[]

see IBSI definition

GLCM

_Dissimilarity(IBSI:8S9)[]

see IBSI definition

GLCM

_InverseDifference(IBSI:IB1Z)[]

see IBSI definition

GLCM**_NormalisedInverseDifference(IBSI:NDRX)[]**

see IBSI definition

GLCM**_InverseDifferenceMoment(IBSI:WF0Z)[]**

see IBSI definition

GLCM**_NormalisedInverseDifferenceMoment(IBSI:1QCO)[]**

see IBSI definition

GLCM**_InverseVariance(IBSI:E8JP)[]**

see IBSI definition

GLCM**_Correlation(IBSI:NI2N)[]**

see IBSI definition

GLCM**_Autocorrelation(IBSI:QWB0)[]**

see IBSI definition

GLCM**_ClusterTendency(IBSI:DG8W)[]**

see IBSI definition

GLCM**_ClusterShade(IBSI:7NFM)[]**

see IBSI definition

GLCM**_ClusterProminence(IBSI:AE86)[]**

see IBSI definition

4.2 GLRLM

Texture

GLRLM**_ShortRunsEmphasis(IBSI:22OV)[]**

see IBSI definition

GLRLM**_LongRunsEmphasis(IBSI:W4KF)[]**

see IBSI definition

4.3 NGTDM

GLRLM

_LowGreyLevelRunEmphasis(IBSI:V3SW)[]
see IBSI definition

GLRLM

_HighGreyLevelRunEmphasis(IBSI:G3QZ)[]
see IBSI definition

GLRLM

_ShortRunLowGreyLevelEmphasis(IBSI:HTZT)[]
see IBSI definition

GLRLM

_ShortRunHighGreyLevelEmphasis(IBSI:GD3A)[]
see IBSI definition

GLRLM

_LongRunLowGreyLevelEmphasis(IBSI:IVPO)[]
see IBSI definition

GLRLM

_LongRunHighGreyLevelEmphasis(IBSI:3KUM)[]
see IBSI definition

GLRLM

_GreyLevelNonUniformity(IBSI:R5YN)[]
see IBSI definition

GLRLM

_RunLengthNonUniformity(IBSI:W92Y)[]
see IBSI definition

GLRLM

_RunPercentage(IBSI:9ZK5)[]
see IBSI definition

4.3 NGTDM

Texture

NGTDM

_Coarseness(IBSI:QCDE)[]
see IBSI definition

NGTDM

_Contrast(IBSI:65HE)[]
see IBSI definition

NGTDM

_Busyness(IBSI:NQ30)[]
see IBSI definition

NGTDM

_Complexity(IBSI:HDEZ)[]
see IBSI definition

NGTDM

_Strength(IBSI:1X9X)[]
see IBSI definition

4.4 GLSZM**GLSZM**

_SmallZoneEmphasis(IBSI:5QRC)[]
see IBSI definition

GLSZM

_LargeZoneEmphasis(IBSI:48P8)[]
see IBSI definition

GLSZM

_LowGrayLevelZoneEmphasis(IBSI:XMSY)[]
see IBSI definition

GLSZM

_HighGrayLevelZoneEmphasis(IBSI:5GN9)[]
see IBSI definition

GLSZM

_SmallZoneLowGreyLevelEmphasis(IBSI:5RAI)[]
see IBSI definition

GLSZM

_SmallZoneHighGreyLevelEmphasis(IBSI:HW1V)[]
see IBSI definition

GLSZM

_LargeZoneLowGreyLevelEmphasis(IBSI:YH51)[]
see IBSI definition

GLSZM

_LargeZoneHighGreyLevelEmphasis(IBSI:J17V)[]
see IBSI definition

4.4 GLSZM

GLSZM

_GreyLevelNonUniformity(IBSI:JNSA)[]
see IBSI definition

GLSZM

_NormalisedGreyLevelNonUniformity(IBSI:Y1RO)[]
see IBSI definition

GLSZM

_ZoneSizeNonUniformity(IBSI:4JP3)[]
see IBSI definition

GLSZM

_NormalisedZoneSizeNonUniformity(IBSI:VB3A)[]
see IBSI definition

GLSZM

_ZonePercentage(IBSI:P30P)[]
see IBSI definition

GLSZM

_GreyLevelVariance(IBSI:BYLV)[]
see IBSI definition

GLSZM

_ZoneSizeVariance(IBSI:3NSA)[]
see IBSI definition

GLSZM

_ZoneSizeEntropy(IBSI:GU8N)[]
see IBSI definition