

MIA - Medical Imaging Analysis tools

I. PACKAGE

FOLDERS	SUBFOLDERS & FILES	DESCRIPTION
impro	----- impro.R	utility functions for image handling (both list and raster formats) implements rasterize.voi(), which creates an array-format representation of the tumor volume object
ellmod	----- hetE.R demo_ellmod.R data/	implementation of the ellipsoidal model of volumetric PET tracer uptake distribution core functions for monotonic and bitonic analyses, incl. a plot function demo script for hetE() functions: run demo.ellmod() VOIs for two sarcoma case studies (Case_A_ROI.rda and Case_B_ROI.rda, typical AMIDE output)

II. DESCRIPTION OF CORE FUNCTIONS

ellmod	plot.profile project iso.reg grad hetE unismooth unismooth.sp struct.quant	plot function... weighted projection of 3D data based on eigendecomposition performs stepwise isotonic uptake profile fit calculation of gradient for objective function implements the core heterogeneity analysis performs stepwise bitonic uptake profile fit performs smoothed bitonic uptake profile fit generates metabolic gradient quantitations from bitonic uptake profile fit
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III. DESCRIPTION OF UTILITY FUNCTIONS

impro	rasterize.voi scan.views	creates an array-frepresentation of the tumor volume object presents a 3-panel view of Transverse, Coronal and Sagittal views of a given PET VOI
ellmod	demo.ellmod	displays mid-volume views of the VOIs and outputs structural analysis for 2 case studies