
Examples showing the functionality of depthVolumeColorCoder Version 1

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Example 1: Using MATLAB's spiralVol

```
%clear workspace
clear; close all; clc;
```

Display Grayscale Spiral

```
%set colormap to use for depth coding
colormap = hsv;

%load data from MATLAB
load('spiralVol.mat');
vol = spiralVol;

%display grayscale volume
volshow(vol)

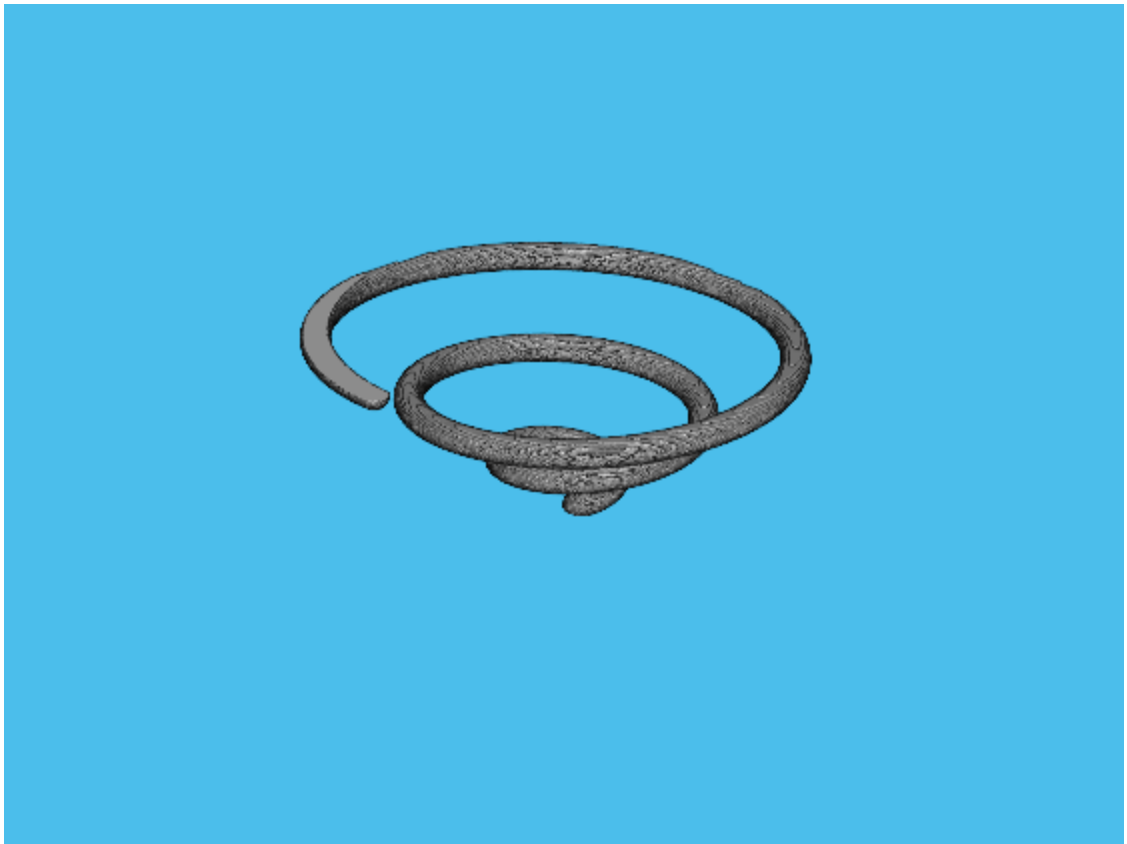
%snap pic of the grayscale volume for publishing
snapnow
close;

ans =

    volshow with properties:

        Parent: [1x1 Panel]
    Alphamap: [256x1 double]
    Colormap: [256x3 double]
    Lighting: 1
```

```
IsosurfaceColor: [1 0 0]
Isovalue: 0.5000
Renderer: 'VolumeRendering'
CameraPosition: [4 4 2.5000]
CameraUpVector: [0 0 1]
CameraTarget: [0 0 0]
CameraViewAngle: 15
BackgroundColor: [0.3000 0.7500 0.9300]
ScaleFactors: [1 1 1]
InteractionsEnabled: 1
```

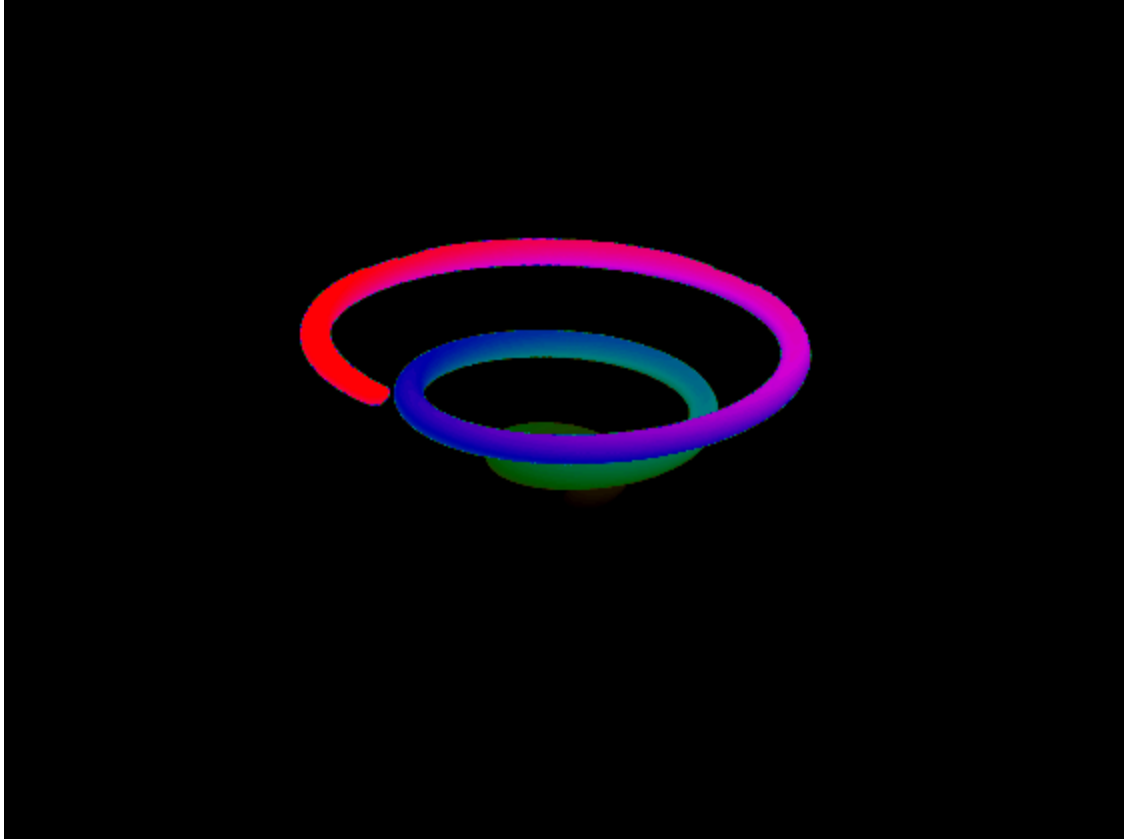


Display Color Coded Spiral

```
%colorcode the spiral
depthVolumeColorCoder(vol,colormap)

%snap pic of the color coded spiral
snapnow

clear;
close;
```



Example 2: Using MATLAB's Brain MRI

Display Grayscale Brain MRI

```
%set colormap to use for depth coding
colormap = jet;

%load data from MATLAB
load(fullfile(toolboxdir('images'),'imdata','BrainMRILabeled','images','vol_001.ma

%display grayscale volume
volshow(vol)

%snap pic of the grayscale volume for publishing
snapnow
close;

ans =

    volshow with properties:

        Parent: [1x1 Panel]
    Alphamap: [256x1 double]
    Colormap: [256x3 double]
```

```
    Lighting: 1
    IsosurfaceColor: [1 0 0]
    Isovalue: 0.5000
    Renderer: 'VolumeRendering'
    CameraPosition: [4 4 2.5000]
    CameraUpVector: [0 0 1]
    CameraTarget: [0 0 0]
    CameraViewAngle: 15
    BackgroundColor: [0.3000 0.7500 0.9300]
    ScaleFactors: [1 1 1]
    InteractionsEnabled: 1
```

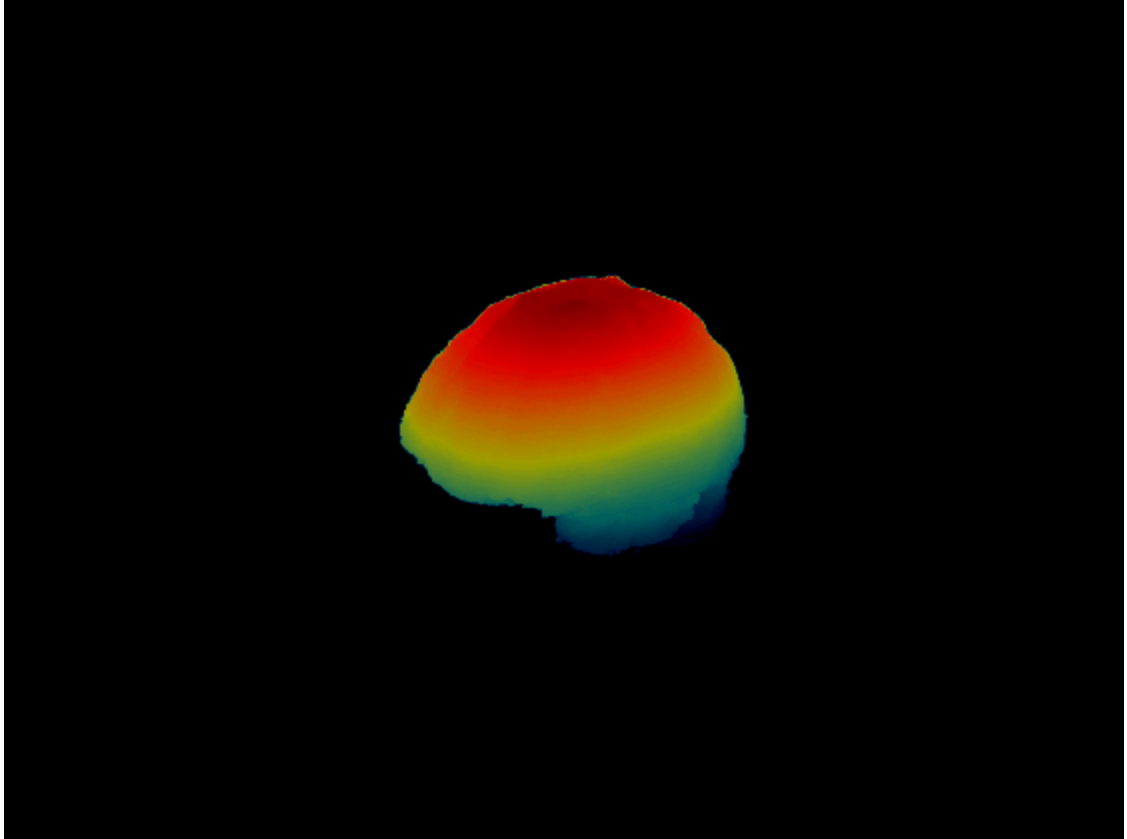


Display Color Coded Brain MRI

```
%colorcode the brain
depthVolumeColorCoder(vol,colormap)

%snap pic of the color coded brain
snapnow

clear;
close;
```



Example 3: Using personal data showing a MRSA biofilm acquired with confocal microscope

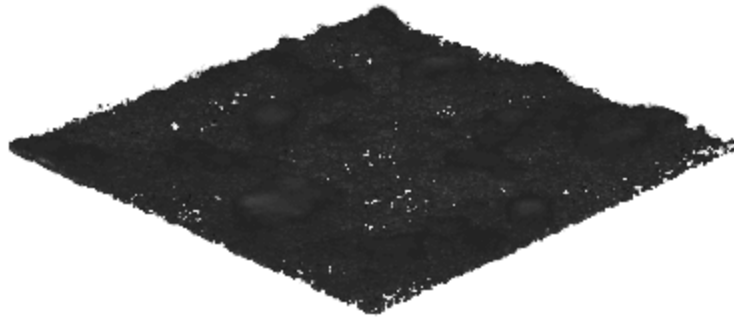
Display Grayscale Biofilm

```
%set colormap to use for depth coding
colormap = hsv;

%load personal data
load('HG001 24 hour DMSO F3.mat')
vol = green_volume;

%display grayscale volume
hg =
    labelvolshow(im2double(gBW),green_volume,'BackgroundColor','w','VolumeThreshold',
hg.LabelVisibility(2,:) = 0;
hg.VolumeOpacity = 1.0;

%snap pic of the grayscale volume for publishing
snapnow
close all;
```



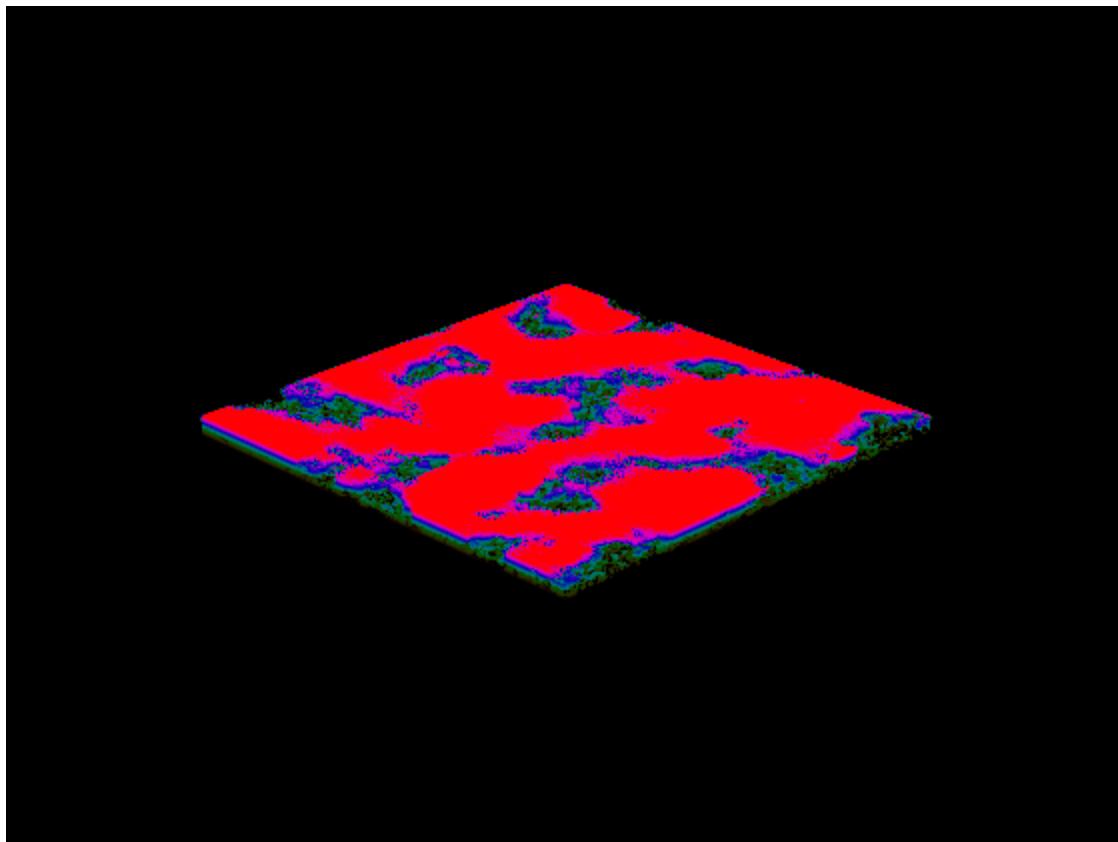
Display Color Coded Biofilm

```
% use known threshold and pass to function to binarize volume
% not specifying a threshold will use imbinarize in lieu
doubleThreshold = greenThreshold;

%colorcode the biofilm
depthVolumeColorCoder(vol,colormap,doubleThreshold)

%snap pic of the color coded brain
snapnow

clear; close all;
```



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