

3D Fractal Dimension calculation on a single image:

The user can select one of his uploaded MR Images and calculate the 3D Fractal Dimension on it. Through this option, the user can interactively change the parameters involved on the calculation, until obtain the more reliable result by inspecting the correlation and error values of the estimated FD.

1. Select the option

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3D on a Single Image

3D on Image Groups

3DFD Graphical Analysis

Data Management

Manage Your Images

Manage Your Groups

Your 3DFD Results

Your Result Files

Statistics

Contact us at
fd3d@ujaen.es

Funded by:

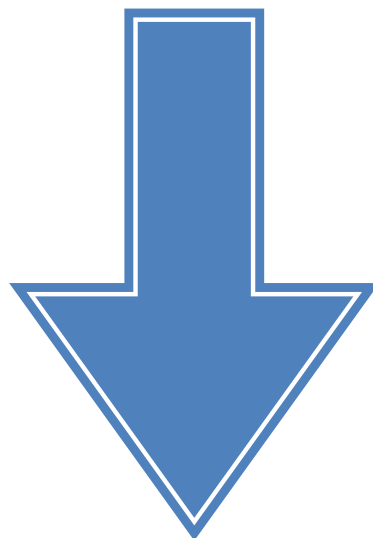
UNIVERSIDAD DE JAÉN
JUNTA DE ANDALUCÍA
CONSEJO REGULADOR DE LA ENERGÍA ELÉCTRICA DE ESPAÑA
F.E.D.E.R.

W3C HTML 5.0

Welcome to 3D Fractal Dimension User!

In the left menu you have the following options:

- **Upload 3D image:** From here you can upload your MR images. These images must be in ANALYZE 7.5 format (pair of files *hdr* and *img*). Once uploaded, you can calculate the 3D Fractal Dimension on them. ([View video demo](#))
- **3DFD on a Single Image:** From here you can select one of your uploaded MR Images and calculate the 3D Fractal Dimension on it. Through this option, you can interactively change the parameters involved on the calculation until obtain the more reliable result, by inspecting the correlation and error values of the estimated FD. ([View video demo](#))
- **3DFD on Image Groups:** From here you can calculate the 3DFD on several groups with several images contained within each one. You only have to set the input parameters, select the groups of images on which you want to calculate the 3DFD, and wait until the Web platform finish the processing. The results are stored in the database. ([View video demo](#))
- **3DFD Graphical Analysis:** From here you can perform a comparative study of the 3DFD values of different groups of images. This 3DFD values must be previously calculated. For a fair comparison, the 3DFD selected values must have been calculated with the same input parameters. ([View video demo](#))
- **Manage Your Images:** Here you can review each of the images you have stored in the system, as well as their details and their 3D representation. From here, you can also perform a multi-parameter 3DFD calculation. ([View video demo](#))
- **Manage Your Groups:** Here you can review and edit each of the groups you have defined in the system, as well as their contained MR Images. ([View video demo](#))
- **Your 3DFD results:** Here you can review and edit the stored results of each of the Fractal Dimension values calculated on your MR images.
- **Your Results Files:** TXT files generated when performing a multiple-parameter 3DFD calculation.
- **Statistics:** Some general statistics about the use of the Web platform.



3D Fractal Dimension

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Isolated 3DFD Calculation

1. Select a Group to find an image: HC_MS - Healthy Controls for Multiple Sclerosis Study
2. Select an Image: mGw198258_T1SINGD_48.img

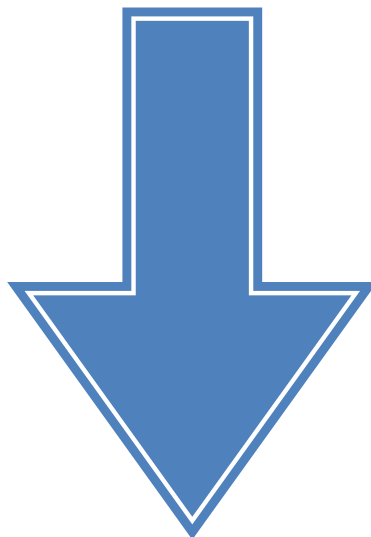
Selected MRImage data:

Name: mGw198258_T1SINGD_48.img(HDR - IMG) Disease: Multiple Sclerosis
Upload Date: 2013-05-27 12:32:12 Scanner Data: Siemens - Magnetom Trio
User Name: User User Patient Data: Unknown

Included in Groups:

3. Calculate 3D Fractal Dimension on selected MRImage

3. Click on the button



3D Fractal Dimension

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W3C XHTML 1.0

Calculate 3D Fractal Dimension

Name: mGw198258_T1SINGD_48.img HDR - IMG Size: 4628.988KB

1. Select the threshold for binarizing the image

Threshold: 70

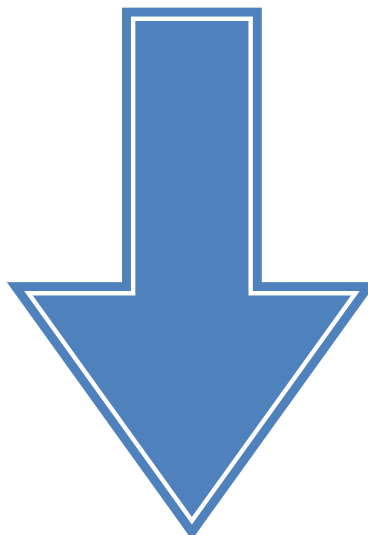
2. Choose between MRI or Skeleton

Calculate from: MR Images Skeleton

3. Click on the button

[Calculate 3DFD](#)

[Watch this image's 3DFD](#)



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Calculate 3D Fractal Dimension

Name: *mGw198258_T1SINGD_48.img* HDR - IMG Size: 4628 988KB
 Disease: *Multiple Sclerosis* Upload Date: 2013-05-27 12:32:12

Insert the following parameters:

Threshold:

Calculate from: MR Images Skeleton

[Repeat this image's 3DFD calculations](#)

Results:

Voxel type:

Error:

Correlation:

3D Fractal Dimension:

View Voxels: Line Parameters: Initial Voxel Size: Final Voxel Size:

Box Counting (log)

Box Size (log(1/x))

Linear Regression Adjustment

Selected Points Discarded Points Regression Line

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1. Select a voxel type for calculating the Box-Counting

2. Adjust the regression line

3. Check the results

4. Save the results