# The Function of Wavelet Packet Singular Entropy

Feature extraction based on wavelet packet singular entropy.

## Description

Wavelet packet singular entropy is a frequency feature of the signal. "Data Upload" is used to load the required data set and label set, and the required parameters should be set in the "Parameter" field.

## Parameter introduction

Parameters of wavelet packet singular entropy:

* Wavelet basis: Wavelet basis.
* Level: Decomposition level. (data type: int)

**Functional description of the main components**

The overall view of the function of wavelet packet singular entropy is divided into "Data Upload", and "Parameter".

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### Data Upload

The user needs to upload the data file and the label file. The uploaded data files and label files support ".mat", ".txt", ".csv", ".xls", and ".npy" format files.

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### Parameter

The user can set the parameters here.

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### Result

After the software has been run, click the "Download" button to download the relevant result data.

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**Examples**

The process of using wavelet packet singular entropy in feature extraction.

**Step 1: Configure the procedure**

Select "Feature Extraction and Reduction" from the process bar on the left side of the web page.



Then select the procedure that needs to be configured from the process display area.

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**Step 2: Upload the data file and the label file**

Select the data file and the label file to be applied from the local path.

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Click "Upload" after successfully selecting the upload data file, and then click "Save".

**Step 3: Select the function**

The ''Wavelet Packet Singular Entropy'' function is chosen for feature extraction.

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**Step 4: Set and save the parameters**

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Firstly, the user needs to select one wavelet base in "Wavelet basis". Then set the parameter in "Level". For details about the parameters of the function, see "Parameter introduction".

Finally, click "Save" after all parameters are configured.

**Step 5: Execute the configured procedure**

Before executing the configured function, the user also needs to set the selected output file format.

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Finally, select "Run".

**Step 6: Download**

When the progress bar reaches the end, the task is completed.

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Click "Download" to download the file of data.

