

# The *compress2d* package

## Image compression using 2d wavelet transform

The *compress2d* package was co-written by

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# Chapter 1

## Package compress2d 2.0

*Package allowing to compress images using a uniform quantization of the 2d orthogonal wavelet transform along with arithmetic coding.*

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### 1.1 Commands related to the compress2d package

- **code2** [`<owtrans2>=objCur`] `<filename>` `<quantStep>`

A uniform quantization is performed on the `<owtrans2>` using a quantification step `<quantStep>` (except around the value 0 for which the quantization step is  $2^* \langle \text{quantStep} \rangle$ ). Then it performs an arithmetic coding and stores the result in `<filename>`

- **decode2** [`<owtrans2>`] `<filename>` [`<image>`]

From a file `<filename>` which has been generated using the command 'code2', it decodes the wavelet transform of the image in `<wtrans>` and then runs the reconstruction and puts the reconstructed image in the level 0 of the `<owtrans2>` or in the `<image>` if specified

### 1.2 Demos

Here is a list of all the Demo files and for each of them all the corresponding Demo commands. To try a Demo command, you should first source the corresponding Demo file then run the command. (When sourcing the Demo file, LastWave tells you about all the commands included in this file).

The Demo files corresponding to this package are :

Demo file **DemoCompress2d**

- **Demo** (in file `scripts/misc/miscScripts`)

Command that explains how to run the demos of the different numerical packages

- **DemoCompress2d** (in file `scripts/compress2d/DemoCompress2d`)

Displays the original 'lenna' image along with its compressed version and the error image



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