

# Package ‘fftw’

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**Version** 1.0-6

**Title** Fast FFT and DCT Based on the FFTW Library

**Description** Provides a simple and efficient wrapper around the fastest Fourier transform in the west (FFTW) library <<http://www.fftw.org/>>.

**Depends** R (>= 3.0.0)

**SystemRequirements** fftw3 (>= 3.1.2)

**License** GPL-2

**RoxygenNote** 6.0.1

**NeedsCompilation** yes

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FFT *Calculate (inverse) DFT using the FFT method*

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## Description

see title

**Usage**

```

FFT(x, ..., plan, inverse=FALSE)
IFFT(x, ..., plan, scale=TRUE)
DCT(x, ..., plan, type=1, inverse=FALSE)
IDCT(x, ..., plan, type=1, scale=TRUE)

```

**Arguments**

x	(complex) vector to process
...	ignored
plan	FFTW plan, can be missing
inverse	perform inverse transform, provided for fft compatibility.
scale	scale results
type	type of DCT

**Author(s)**

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**See Also**

[planFFT](#)

**Examples**

```

n <- 2**16
x <- rnorm(n)
p <- planFFT(n)
y <- FFT(x, plan=p)

Mod(x - IFFT(FFT(x)))

```

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planFFT

*Create FFTW plan*

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**Description**

see title

**Usage**

```

planFFT(n, effort=0)
planDCT(n, type=1, effort=0)

```

**Arguments**

n	size of transform
type	type of DCT
effort	how hard fftw tries to find an optimal plan (0 to 3)

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**See Also**

[FFT](#) and [IFFT](#)

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