

NAME

ccosh, ccoshf, ccoshl – complex hyperbolic cosine

SYNOPSIS

```
#include <complex.h>
```

```
double complex ccosh(double complex z);
```

```
float complex ccoshf(float complex z);
```

```
long double complex ccoshl(long double complex z);
```

Link with `-lm`.

DESCRIPTION

These functions calculate the complex hyperbolic cosine of z .

The complex hyperbolic cosine function is defined as:

$$\text{ccosh}(z) = (\exp(z) + \exp(-z))/2$$

VERSIONS

These functions first appeared in glibc in version 2.1.

CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

SEE ALSO

[cabs\(3\)](#), [cacosh\(3\)](#), [csinh\(3\)](#), [ctanh\(3\)](#), [complex\(7\)](#)

COLOPHON

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