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***Rocky Enterprise Linux 9.2 Manual Pages on command 'ctanhf.3'***

**\$ man ctanhf.3**

CTANH(3)                      Linux Programmer's Manual                      CTANH(3)

**NAME**

ctanh, ctanhf, ctanhf - complex hyperbolic tangent

**SYNOPSIS**

```
#include <complex.h>

double complex ctanh(double complex z);

float complex ctanhf(float complex z);

long double complex ctanhf(long double complex z);

Link with -lm.
```

**DESCRIPTION**

These functions calculate the complex hyperbolic tangent of z.

The complex hyperbolic tangent function is defined mathematically as:

$$ctanh(z) = csinh(z) / ccosh(z)$$

**VERSIONS**

These functions first appeared in glibc in version 2.1.

**ATTRIBUTES**

For an explanation of the terms used in this section, see attributes(7).

??

?Interface                      ? Attribute    ? Value    ?

??

?ctanh(), ctanhf(), ctanhf() ? Thread safety ? MT-Safe ?

??

**CONFORMING TO**

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

#### SEE ALSO

`cabs(3)`, `catanh(3)`, `ccosh(3)`, `csinh(3)`, `complex(7)`

#### COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

2017-09-15

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