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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'casinh.3' command**

**\$ man casinh.3**

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

### NAME

casinh, casinhf, casinhl - complex arc sine hyperbolic

### SYNOPSIS

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

```
double complex casinh(double complex z);
```

```
float complex casinhf(float complex z);
```

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

Link with -lm.

### DESCRIPTION

These functions calculate the complex arc hyperbolic sine of z. If  $y = \text{casinh}(z)$ , then  $z = \text{csinh}(y)$ . The imaginary part of y is chosen in the interval  $[-\pi/2, \pi/2]$ .

One has:

$$\text{casinh}(z) = \text{clog}(z + \text{csqrt}(z * z + 1))$$

### VERSIONS

These functions first appeared in glibc in version 2.1.

### ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

??

?Interface                    ? Attribute    ? Value    ?

??

?c sinh(), casinhf(), casinhl() ? Thread safety ? MT-Safe ?

??

CONFORMING TO

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

SEE ALSO

asinh(3), cabs(3), cimag(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/>.

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CASINH(3)