

```
// FINE INPUT
// lunghezza pendolo equivalente
lr=J/(m*d)
om0=sqrt(g/lr)
//
k=sin(fimax/2)
// periodo
T=4/om0*k(k)
disp(T,"T=")
t=linspace(0,T,500);
```

Numerical and symbolic solutions

$$lr := \frac{J}{m \cdot d} = 0,7255 \text{ m}$$

$$\omega := \sqrt{\frac{g_e}{lr}} = 3,6765 \text{ Hz}$$

$$k := \sin(0,5 \cdot \varphi_{Max}) = 0,7106$$

$$T := \frac{4}{\omega \cdot k} = 1,531 \text{ s}$$

%k

%k

Jacobi's complete elliptic integral of the first kind (vectorized)

Syntax

$K = \text{ellk}(m)$

Arguments

m

vector of real numbers in $[-\infty, 1)$: parameter of the elliptic integral.

K

vector of respective values of the integral.

Description

Computes and provides values of the Jacobi's complete elliptic integral of the first kind, defined

as

$$K(m) = \int_0^1 \frac{dt}{\sqrt{(1-t^2)(1-mt^2)}}$$