

Report for fixedOnTopUnbreaking

Simulated with: lib.managers.crankNicolson.dimensionless

Simulation constants:

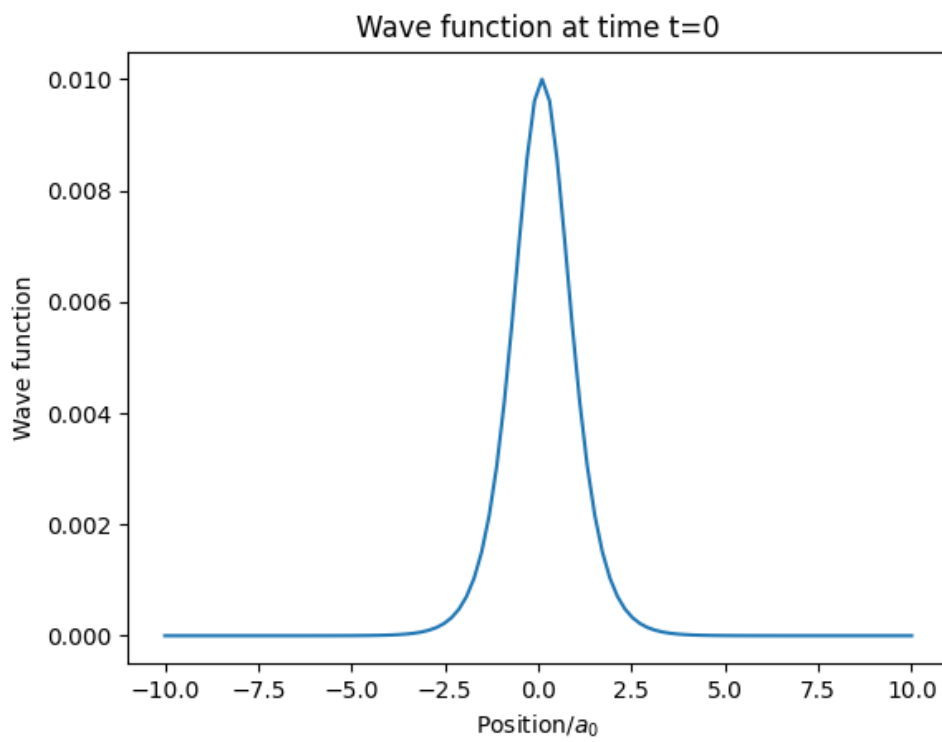
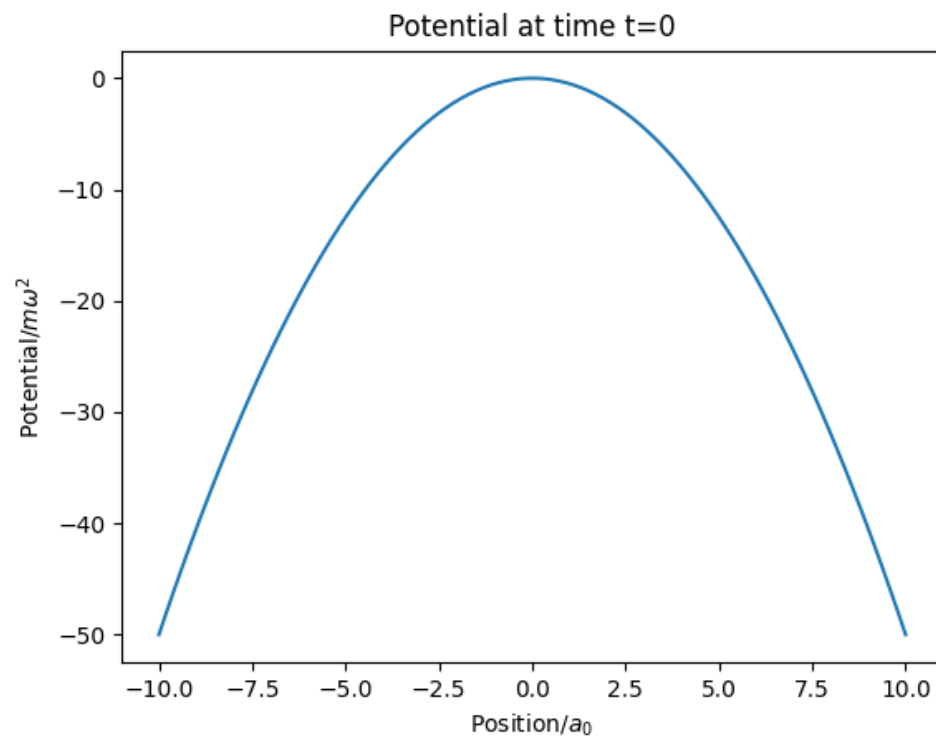
```
baseDensity: 1.000          chemicalPotential: 100.000  dt: 0.005
dx: 0.200                   g: -100.000                hbar: 1.000
healingLength: 0.071        mass: 1.000                plotFPS: 1000.000
plotPause: 0.001            plotStep: 10                plotYMax: 2
plotYMin: -2                r: 0.125                  tCount: 1000
tMax: 5                     tMin: 0                  velocity: 0.000
x0: 0.000                   xCount: 100                xMax: 10
xMin: -10
```

Wave function:

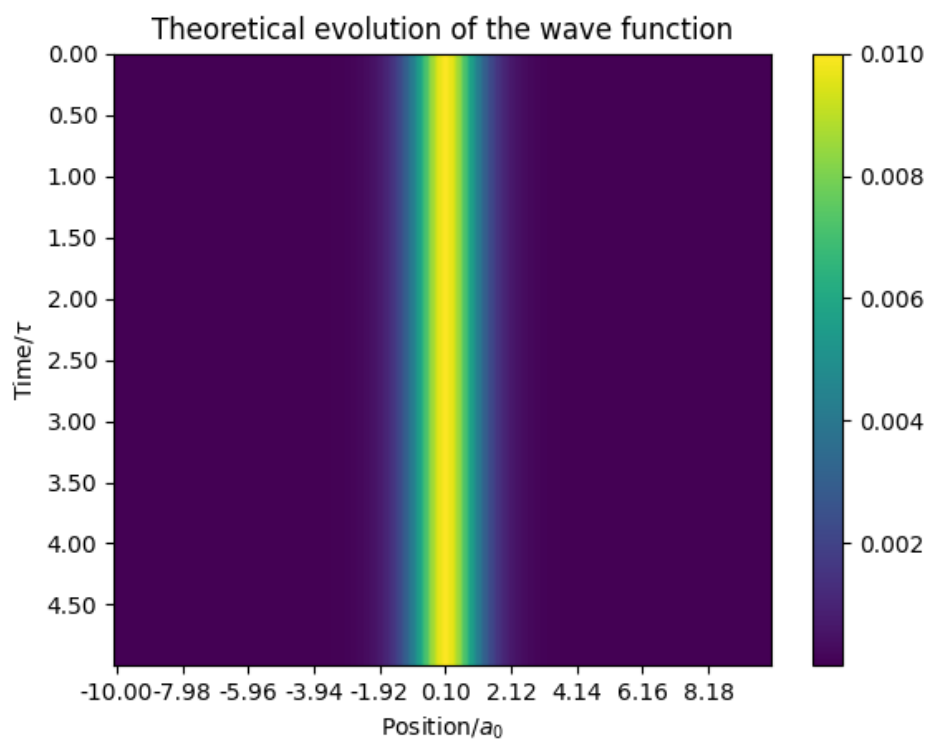
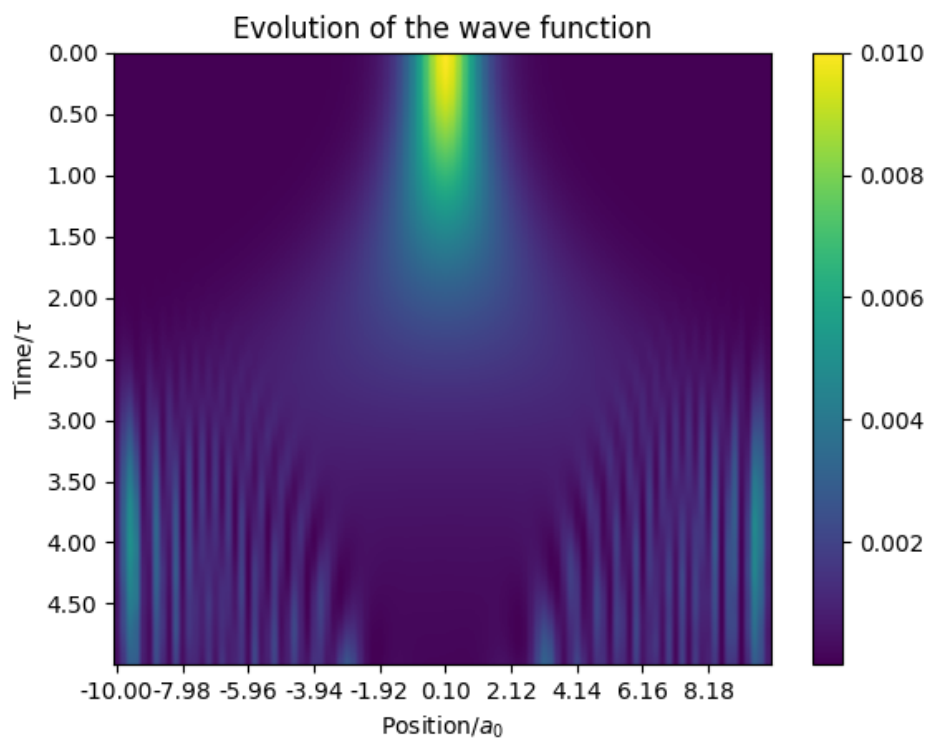
```
def brightSoliton(x, t, constants):    v = constants["velocity"]    g =
constants["g"]    x0 = constants["x0"]    eta = jnp.sqrt((v**2 + 2) / (-2 *
g))    kappa = jnp.sqrt(2 / (v**2 + 2))    spacePart = eta / jnp.cosh(((x -
x0) - v * t) / kappa) * jnp.exp(1j * (x - x0) * v)    timePart = jnp.exp(1j *
(1 / 2 - v**2 / 4) * t)    return spacePart * timePart
```

Potential function:

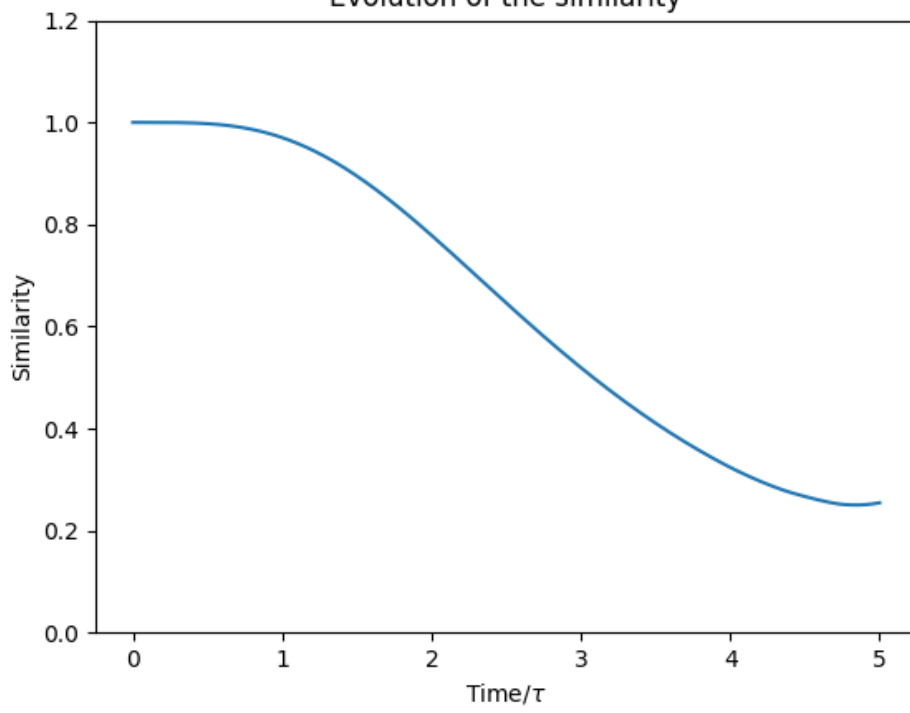
```
def V(x, t, constants):    return -1 / 2 * x**2
```



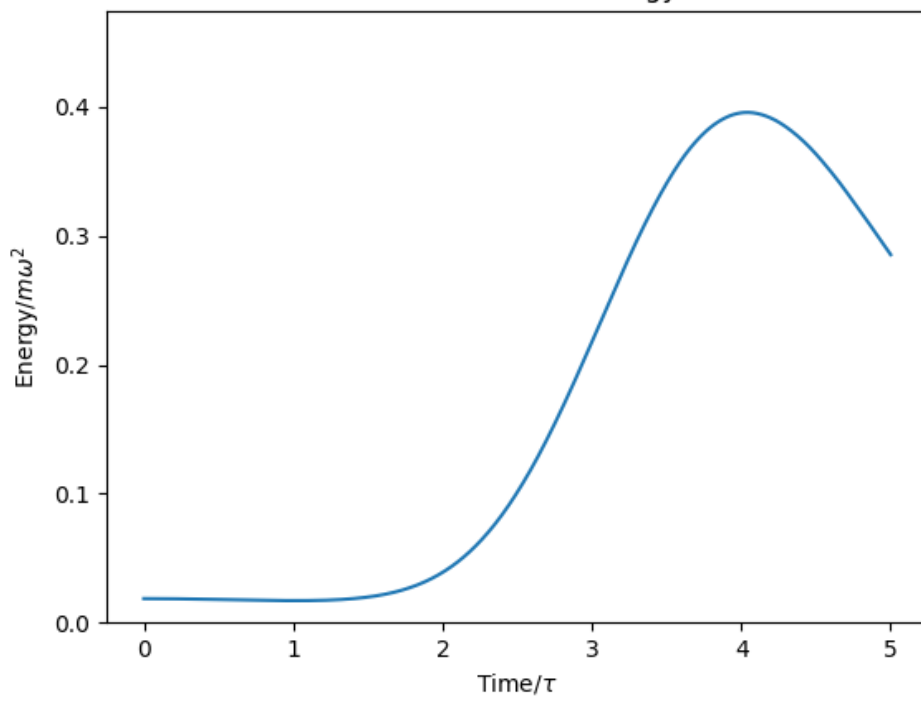
Results



Evolution of the similarity



Evolution of the energy



Evolution of the norm

