

# Model Documentation of the Roessler Attractor - Equation 1 of 1979

## 1 Nomenclature

### 1.1 Nomenclature for Model Equations

$a, b, c$  constants

## 2 Model Equations

State Vector and Input Vector:

$$\underline{x} = (x_1 \ x_2 \ x_3) = (x \ y \ z)^T$$
$$\underline{u} = \emptyset$$

Model Equations:

$$\dot{x}_1 = -y - z \quad (1a)$$

$$\dot{x}_2 = x + ay \quad (1b)$$

$$\dot{x}_3 = bx - cz + xz \quad (1c)$$

Parameters:  $a, b, c$

Outputs:  $\langle not \ defined \rangle$

### 2.1 Exemplary parameter values

Symbol	Value
$a$	0.38
$b$	0.3
$c$	4.84

## 3 Derivation and Explanation

*Not available*

## References

- [1] Roessler, O. E.: *Continuous chaos - four prototype equations*, Ann . NY Acad. Sci. 316, p. 381, 1979
- [2] Gaspard, P.: *Roessler Systems, Encyclopedia of Nonlinear Science*, pp. 808-811, New York, 2005