

The system of ordinary differential equations governing the Lorenz attractor is

$$\frac{d}{dt} \begin{pmatrix} x(t) \\ y(t) \\ z(t) \end{pmatrix} = \begin{pmatrix} \sigma(y(t) - x(t)) \\ x(t)(\rho - z(t)) - y(t) \\ x(t)y(t) - \beta z(t) \end{pmatrix},$$

with typical values of $\sigma = 10$ (the Prandtl number), $\rho = 28$ (the Rayleigh number), and $\beta = 8/3$. Here the starting point is chosen as $(x_0, y_0, z_0) = (0, 1.0, 0.9)$.