# Lorentz transformation

In physics, the Lorentz transformations are a one-parameter family of linear transformations from a coordinate frame in spacetime to another frame that moves at a constant velocity (the parameter) relative to the former. The respective inverse transformation is then parametrized by the negative of this velocity. The transformations are named after the Dutch physicist Hendrik Lorentz.

$$t' = \gamma(t - \frac{vx}{c^2})$$
$$x' = \gamma(x - vt)$$
$$y' = y$$
$$z' = z$$