$$
\begin{aligned}
E &= \gamma m_0 c^2 = [1 + \frac{1}{2}(v/c)^2 + ...]m_0 c^2 \\
E &= m_0 c^2 + \frac{1}{2}(v/c)^2 m_0 c^2 + ... \\
E &= m_0 c^2 + \frac{1}{2} m_0 v^2 + ...
\end{aligned}
$$