

**Griffiths' last formula in section 12.2.1 says $E^2 = p^2 c^2 + m^2 c^4$.
When is that valid?**

Only for photons

Only for massive point like particles, and NOT for photons

For massive point like particles AND/OR photons

For ALL situations, including complex "systems" that include particles and EM radiation.

Not sure/none of the above/something else

Wait, I'm confused. I thought $E = mc^2$?! That's not the same as the above equation (If $E=mc^2$ then squaring it gives $E^2 = m^2 c^4$, it's totally missing that whole $p^2 c^2$ term) What's the deal, which is correct, or what's the difference?