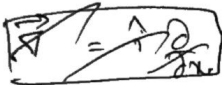


Conventions & notations.

- ① natural units $\hbar = c = 1$
- ② Lorentz metric $\eta_{\mu\nu} = \text{diag}(+1, -1, -1, -1)$.
- ③ Einstein summation convention; i.e., repeated indices are summed over.
- ④  $\partial_x \equiv \frac{\partial}{\partial x}$, $\partial_y \equiv \frac{\partial}{\partial y}$, $\frac{\partial}{\partial z} \equiv \frac{\partial}{\partial z}$.
- ⑤ $\vec{\nabla} = \hat{i} \partial_x + \hat{j} \partial_y + \hat{k} \partial_z$.
- ⑥ ~~m, n, p, q~~ Greek alphabets (e.g. $\alpha, \beta, \gamma, \mu, \nu, \dots$ etc)
are indices ~~for~~ ~~from~~ from 0, 1, 2, 3. over.
- ⑦ ~~f~~ Latin/Roman alphabets (i, j, k etc.) ~~run~~ runs ~~from~~ ^{over} from 1, 2, 3.
- ⑧ $\delta^\mu_\nu, \delta^i_j$; etc are Kronecker Delta δ^μ_ν .

References: (I followed)

1. Peskin & Schroeder

2. Lecture note by David Tong.

3. Lecture note by Ashok Das

other good references (I)

1. Weinberg (Vol. II)

My Lecture after iPad.

2. Mark Srednicki

3. Matthew Schwartz.