Thus we have $2i\langle[\Lambda,\Theta]\eta,\eta\rangle \geq 0$.

⌈ $i\langle\Lambda\Theta\eta,\eta\rangle \geq 0$ $\quad i\langle\Theta\Lambda\eta,\eta\rangle \leq 0$

$\Rightarrow i\langle[\Lambda,\Theta]\eta,\eta\rangle = i\langle\Lambda\Theta\eta,\eta\rangle - i\langle\Theta\Lambda\eta,\eta\rangle \geq 0$ ⌋

But now $\Theta = \Theta_{L^{-\mu}\otimes E} = \Theta_E - \frac{2\pi}{i}\mu\omega$,

and so $2i\langle[\Lambda,\Theta]\eta,\eta\rangle = 2i\langle[\Lambda,\Theta_E]\eta,\eta\rangle - 4\pi\mu\langle[\Lambda,L]$ $\eta,\eta\rangle = 2i\langle[\Lambda,\Theta_E]\eta,\eta\rangle - 4\pi\mu(n-p)\|\eta\|^2$.

⌈ $\Theta = \Theta_{L^{-\mu}\otimes E} = \Theta_E - \frac{2\pi}{i}\mu\omega$ from $\Theta_{L^{\mu}\otimes E} = \Theta_E + \frac{2\pi}{i}\mu\omega$

$i\langle[\Lambda,\Theta]\eta,\eta\rangle = i\langle[\Lambda, 1\otimes\Theta_E - \frac{2\pi}{i}\mu\omega\otimes 1]\eta,\eta\rangle$

$= i\langle[\Lambda, 1\otimes\Theta_E]\eta,\eta\rangle - i\langle[\Lambda,\frac{2\pi}{i}\mu\omega\otimes 1]\eta,\eta\rangle$

But since $[\Lambda,\frac{2\pi}{i}\mu\omega\otimes 1]\eta = \frac{2\pi\mu}{i}[\Lambda,\omega\otimes 1]\eta$

$= \frac{2\pi\mu}{i}[\Lambda,L]\eta = \frac{2\pi\mu}{i}(n-p-\overset{\overset{0}{\|}}{q})\eta$,

$i\langle[\Lambda,\frac{2\pi}{i}\mu\omega\otimes 1]\eta,\eta\rangle$

$= 2\pi\mu(n-p)\langle\eta,\eta\rangle = 2\pi\mu(n-p)\|\eta\|^2$.

$\Rightarrow i\langle[\Lambda,\Theta]\eta,\eta\rangle = i\langle[\Lambda, 1\otimes\Theta_E]\eta,\eta\rangle$

$- 2\pi\mu(n-p)\eta$. ⌋