

uncertainty and the age of the universe

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The universe is about 10^{18} seconds old since the Big Bang.
This means using $E \times t = \hbar$ that energy that has been emitted
sometime after the Big Bang has an uncertainty in its magnitude of 10^5
– 52 Joules.
Suppose this uncertainty of energy is associated with a photon that
was emitted sometime after the Big Bang:

Using $E = h \times f$ we find that $10^5 - 52 = 10^5 - 34 \times f$
 $f = 10^{-18} \text{ s}^{-1}$

For a photon wavelength \times frequency = speed of light
so wavelength $\times 10^{-18} = 10^8$
wavelength = 10^{26} metres.

So the uncertainty in the photon's wavelength is about the size of the
universe.
If the universe was older this wavelength would be greater and would
match the size of the universe.
Can the uncertainty principle be used to tell us the size of the
universe?