Answer on Question#76769 – Physics – Electromagnetism

If you had an ideal blackbody emitter at 300 degrees kelvin, what wavelength of light (in nanometers) would it emit?

Solution. The wavelength of the peak of the blackbody radiation is proportional to 1/T and is called "Wien's shift" or "Wien's displacement law". According to this law

$$\lambda_{max} = \frac{2.898 \cdot 10^{-3} m \cdot K}{T}$$

Hence

$$\lambda_{max} = \frac{2.898 \cdot 10^{-3} m \cdot K}{300 K} = 9660 \cdot 10^{-9} m = 9660 nm$$

Answer. $9660 nm$.