

Source: [KBPhysicsMasterIndex](#)

1 | Quantum Mechanics

What is quantum mechanics? Quantum \Rightarrow in small/discrete steps

The Quantum of US Currency \Rightarrow \$0.01

1.1 | Puzzle of the Blackbody Radiation

(“black” \Rightarrow opaque): from solid materials, liquids

The radiation from hot, solid materials looks samey (bright yellow) unlike every gas, however, had a spectral emission (think - neon lights.)

But!

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The light spectrum did depend on temperature, so what happened? Why is everything hot?

Max Plank \Rightarrow trying to model incoming light source from rays as basically all absorbed and not bounced back.

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Max Plank's Model 1 in this manner matched well with observations at long wavelengths (red hot). But, it predicted infinite brightness (it will just “keep bouncing”) as wavelength \Rightarrow 0, which is wrong.

So, he made it better.

Max Plank's Model 2 is just Model 1, but an additional assumption that when Energy Transfers from e^- to EMWave, δE must be some constant * frequency of light.