

### Temperature Problem with the Sun's Corona

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The real problem is not the corona's high temperature but instead, the low temperature of the surface.

The surface temperature is 3100 times lower that it should be.

At earth in the vacuum of space:

$$\text{Temperature -- } T_E = 393K$$

$$\text{Distance -- } D_E = 1.5 \times 10^{11} m$$

$$\text{Total energy -- } E = 3.9 \times 10^{26} J$$

$$\text{Surface of the sphere -- } A_E = 4\pi \cdot D_E^2$$

$$T_E = \frac{1}{3.5} \frac{E}{A_E}$$

At the average corona:

$$T_C = 5 \times 10^6 K$$

$$D_C = 1.3 \times 10^9 m$$

$$E = E$$

$$A_C = 2.2 \times 10^{19} m^2$$

$$T_C = \frac{1}{3.5} \frac{E}{A_C}$$

At the Sun's surface:

$$T_S = 5780K$$

$$D_S = 7 \times 10^8 m$$

$$A_S = 6.2 \times 10^{18} m^2$$

$$E = E$$

$$T_s = \frac{1}{3.5} \frac{E}{A_s} \frac{B_T}{B_s} \frac{1}{31}$$

Earth's magnetic field:  $B_T = 40\mu T$

Sun's " " :  $B_s = 100B_T$

So, we think that the low temperature of the surface is due to the high magnetic field of the sun at the surface. And there is a factor of 31 due to the fractal surface of the sun, the real surface is 31 times greater than the surface of a sphere.