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### **The photopause of the Sun**

ABSTRACT. General Relativity applied to the Sun and the Earth shows that these two celestial bodies have great similarities, but the Sun having 330 000 times greater mass, 1 000 000 greater volume and 100 times greater radius makes them appear to be vastly different. A summary of the currently accepted views about the Sun is given. Comments on these views indicate that there are conceptual errors. An alternative, based on General Relativity but without complicated mathematics, gives a very different picture. The corona is not hot and it is a coronal phase of matter that exists between the gas phase and the plasma phase. This coronal phase is to the plasma phase as the multimer phase (clouds) around the Earth is to the gas phase (air). It is this coronal phase of matter that gives us the noctilucent clouds and the magnificent Aurora Borealis. The temperature of core of the Sun is not 15 000 000 K but about 6000 K! The core of the Sun is not plasma phase, it is solid phase and essentially metallic. The photopause of the Sun is the boundary of the photosphere where it meets the chromosphere, relativistically the same as the tropopause of the Earth (where the troposphere meets the stratosphere). Four diagrams illustrate the similarities and the special differences between the Earth and the Sun. There is no observational evidence that nuclear fusion is the source of the heat, or power, of the Sun.

*Nanotechnology Perceptions* **14** (2018) 8–25

doi: 10.4024/N19HO17A.ntp.14.01