



HOW

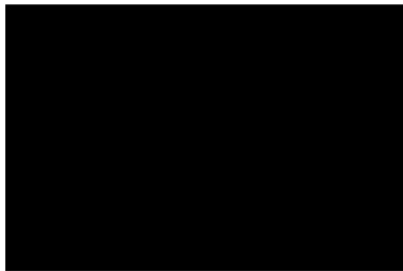
are atoms and molecules excited to make aurora?

An aurora is created when atoms and molecules in the atmosphere get excited!

An atom or molecule is "excited" when it has extra energy.



Not Excited

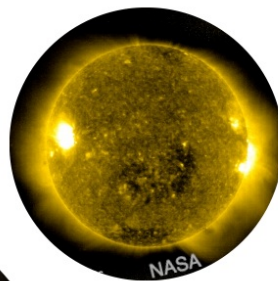
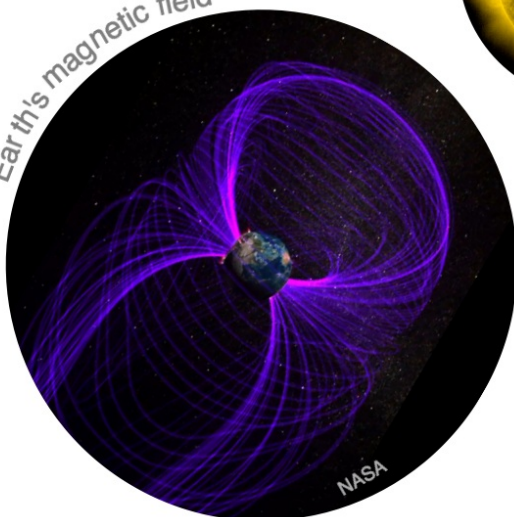


Excited



How are atoms excited in the atmosphere to make aurora?

Earth's magnetic field



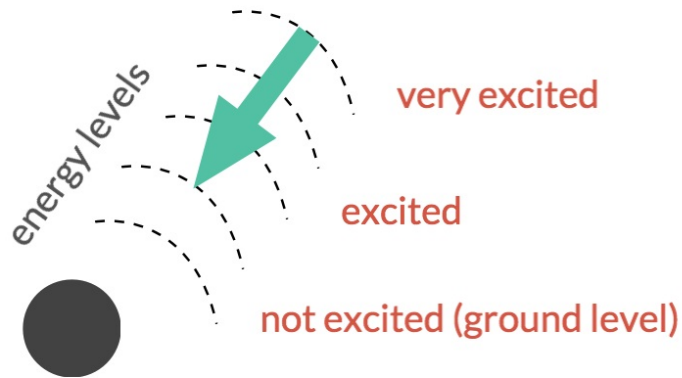
The Sun is continuously ejecting a stream of charged particles carrying a magnetic field.

As these charged particles near Earth, some become trapped in Earth's magnetic field and are accelerated toward the north and south magnetic poles.



The charged particles enter Earth's upper atmosphere near the poles and collide with atoms and molecules to excite them.

Excited atoms and molecules maintain distinct energy levels.



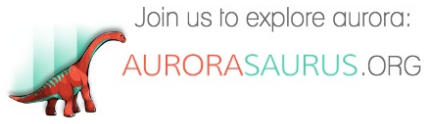
But nothing can stay excited forever!

Eventually, excited atoms shed energy to move to a lower energy level.

Often, the extra energy is lost by bumping into another atom or molecule. But sometimes, an excited atom can get rid of its extra energy by emitting light.

When atmospheric conditions are right, many atoms and molecules emit light to create an aurora.





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