

Wow...

What an unbelievably beautiful aurora!!

Singing Melodies from Outer-space

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What is
Humanosphere?

① Nanuk: "Coco, you know how an aurora is formed?"
Coco: "Lights! They umm.. fall from the sky to make auroras!"
②
③ Nanuk: "Hmm... What should I explain first?"
Coco: "Our universe is actually filled with gaseous matter, ionized into positive ions and negative electrons."
Nanuk: "I thought it was empty..."

④ The sun's "solar wind" comprised of magnetic field and plasma flows through our solar system.
⑤ plasma
⑥ These changed particles encounter the Earth.
⑦ and when they collide with molecules and atoms of the atmosphere, they release light.
Coco: "spark! spark!"
Nanuk: "Like this?"
Coco: "Yep, just like that."

⑧ Aurora is also related to birds singing from space.
⑨ Birds singing...!? chirp chirp...
⑩ Let me tell you about chorus first.
Chorus
Sounds (radio waves) from space

⑪ Radio waves that come from the Sun and planets are made by taking energy from plasma particles. They can be received and heard as sounds on the Earth.
⑫ There are 3 kinds of these radio waves depending on what they sound like. What's known as "dawn chorus" that sounds like birds singing is one of them too.
⑬ I've never heard it... Me neither. How can we hear it?

⑭ Dawn chorus can be heard around dawn when the Earth's magnetic field is disturbed.
⑮ A pattern of rising frequencies repeats itself rapidly within a second.
hiss rising whistler dawn chorus
⑯ ...and when you plug that into an audio amp...!
click
chirp chirp... Whoa! Amazing, it sounds just like a bird singing!

⑰ These chorus waves also exist at other planets with magnetic fields such as Jupiter and Saturn, but none with the clear sound like we hear on Earth!
ahem
⑱ Wow, what a special planet we live on!
Amazing!
Yep, it's true.
⑲ These chorus waves are attracting new interest recently because of their role in forming auroras, and also the radiation belts that are obstacle to our making use of space.

⑳ 50 to 100 years from now, we may be able to create artificial chorus, or even control the environment around the radiation belt.
click click
㉑ Nanuk! The Sun is rising!
㉒ Feels like we can hear the chorus right now.