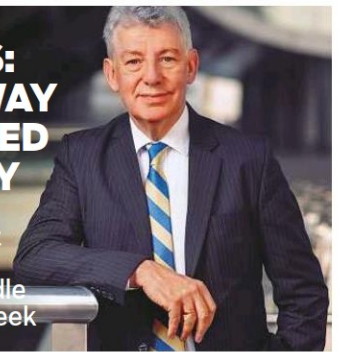




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Hope Probe discovers new auroras on Mars

WORM-LIKE STREAKS OF ELECTRON EMISSION SPOTTED

DUBAI

BY ANGEL TESORERO
Senior Reporter

New images of glowing atmospheric lights over Mars, known as discrete auroras, were released by Emirates Mars Mission (EMM) yesterday.

The pictures were taken by the orbiting Hope Probe, following “a new series of revolutionary observations that promise new answers – and new questions – about the interactions between Mars’ atmosphere, the planet’s magnetic fields and its solar wind”.

Dubbed ‘sinuous discrete aurora’ by the EMM team, the phenomenon is described as “a huge worm-like aurora that extends halfway around the planet”.

“The sinuous discrete aurora consists of long worm-like streaks of energised electron emission in the upper atmosphere, extending many thousands of kilometres, stretching from the dayside into the nightside of Mars,” the EMM statement added. “(The pictures) were taken when Mars was experiencing the effect of a solar storm, resulting in a faster, more turbulent stream of solar wind electrons than usual. These aurora observations are some of the brightest and most extensive yet captured by the Hope Probe. They include elongated shapes, which may be caused by similarly elongated regions of electron energisation



Courtesy: Emirates Mars Mission

■ These aurora observations are some of the brightest and most extensive yet captured by the Hope Probe.

● **The images taken by Hope Probe have revolutionary implications for understanding the interactions between solar radiation and its Martian magnetic fields as well as the planetary atmosphere.**

conditions in the magnetotail,” the team added.

‘Ghostly glow’

An aurora – which looks like a ghostly glow – is a natural phenomenon characterised by a display of a natural-coloured (green, red, yellow or white) light show. It occurs when electrically-charged particles from the sun collide with particles from gases such as oxygen and

nitrogen present in the atmosphere. A type of Martian aurora first identified by Nasa’s MAVEN spacecraft in 2016 is actually the most common form of aurora occurring on the Red Planet.

The images taken by Hope Probe have revolutionary implications for understanding the interactions between solar radiation and its Martian magnetic fields as well as the planetary atmosphere.