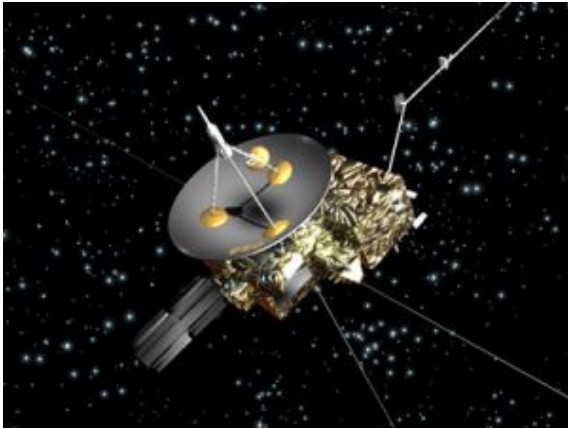


Moving to the rhythm of the Sun



This artist's impression shows the ESA/NASA Ulysses spacecraft. Launched in 1990, the European-built spacecraft visits both polar regions once every 6.2 years as it circles the Sun in an orbit that is almost perpendicular to the ecliptic, the plane in which Earth and the planets move. Credits: ESA

Scientists from the Ulysses mission have proven that sounds generated deep inside the Sun cause the Earth to shake and vibrate in sympathy. They have found that Earth's magnetic field, atmosphere and terrestrial systems, all take part in this cosmic sing-along.

David Thomson and Louis Lanzerotti are team members of the HISCALE experiment on board Ulysses, a joint mission between ESA and NASA. Together with colleagues Frank Vernon, Marc Lessard and Lindsay Smith, they present evidence that proves that Earth moves to the rhythm of the Sun. They show that distinct, isolated tones, predicted to be generated by pressure and gravity waves in the Sun, manage to reach Earth and are detectable in our environment.

Thomson and colleagues have discovered these tones in seismic data and have found them in Earth's magnetic field and atmosphere, and even in voltages induced on ocean cables, along with a wide variety of terrestrial systems. Although these tones are all around us, it would not be possible for us to hear them, even if we listened very closely.

According to Thomson, data from Ulysses provided an important clue as to how these sounds generated deep inside the Sun reach the Earth.

His team also present new evidence for these tones in various terrestrial systems here on Earth. They also provide an explanation for the mechanism by which these tones, originating from deep inside the solar interior manage to make their way to Earth, and pervade our environment.

Source: ESA

This document is subject to copyright. Apart from any fair dealing for the purpose of private study, research, no part may be reproduced without the written permission. The content is provided for information purposes only.