NEWS FEATURE

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The most important scientific discovery of 2019: seismic universe

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"Study of earthquakes and moonquakes finds strong (M6+) quakes and plate tectonics are caused by externally excited resonance instead of mantle convection/inner heat."

Key words—plate tectonics, fundamental questions of physics, Space colonization.

In the **most important scientific discovery of 2019** and the **most significant geophysical find of all time** – published in the world's oldest geophysics periodical *Journal of Geophysics* (as parts One and Two of a paper doublet) – Dr. Mensur Omerbashich showed that Earth plate tectonics and **M6.2+** (tectonic) earthquakes are caused by externally forced mechanical resonance rather than mantle convection (internal heat) as thought by some. The discovery of resonance seismotectonics enables anti-forecasting (seismic quiescence prediction) months ahead globally, and, for the first time, sets the course for physics-based and Earth-tailored earthquake prediction.

The phenomenon of resonating vibration, or **resonance**, occurs when a physical system's natural period of oscillation matches another physical system's period of oscillation (or its fractional multiple). We speak of mechanical resonance when the physical systems involve vibrating bodies of mass or electrical resonance when electrical circuits are involved. As gravitational vectors in our Solar system's plane regularly stir masses of the rotating Earth, this disturbance under the right conditions magnifies the input tidal energy by 100s of times. Earth tectonic plates act as oscillating bodies of mass themselves, each with its natural vibration period.

In simplest terms, mantle convection models are designed such that they break down if one can demonstrate a coupling between continents and flows in the mantle – for example, a prominent **Richter**-**McKenzie** 1977 model in the same journal. Then this demonstration of a continent-mantle global coupling mechanism from successive **M6.2+** (tectonic) earthquakes in the most extreme band of energies on Earth means that the same resonance and not convection drives Earth's tectonic plates.

By analyzing the times of **earthquakes** occurrences in the **USGS**, **GFZ**, and **EMSC** records, Omerbashich extracted a complete set of periods of so-called superharmonic resonance that shakes the Earth's mantle and crust. It is the first detection of a seismic periodicity describing a physical phenomenon and the second ever of a full resonance periods bundle in any global data since the discovery of **Schumann** resonance in the 1960s. To extract periodicity, Omerbashich used a least-squares spectral analysis method favored by astronomers and of the highest accuracy in computing periods from gapped data such as most of the natural-data sets. Omerbashich then analyzed the times of all **Apollo Program's** moonquake events – as a spatially (384,000 km apart) and temporally (half a century apart) independent verification. This **moonquakes** analysis resulted in the detection of the Moon's superharmonic resonance. Such independent confirmation of resonance tectonics and so its universality unveiled the external (astrophysical) cause of plate tectonics, as hinted by **Alfred Wegener**.

One of the greatest strengths (to the point of impossibility to question the result) and the fascinating aspects of this discovery is that it is direct. Thus the analysis has captured continents and tectonic plates as they "ride" on mantle's resonance waves (rather than merely implying resonance from some intermediary data) while cyclically snapping into **M6.2+** quakes at precisely those resonance periods.

As the Earth is the only body in our Solar system with plate tectonics and one moon, this discovery is of great importance for our colonization of Space. Due to interference, astronomical bodies with two or more moons experience no plate tectonics the same as those without a moon. This causality enables us to instantly both revive the Mars plate tectonics and halt the Earth's tectonics before it ends in energy overload – by tractoring the smaller of two Mars's moons, Deimos, into the Earth's orbit to make Deimos a secondary moon of Earth's.

This discovery is a culmination of 15-years long research that Omerbashich began at the **Berkeley National Laboratory**, where he generalized the concept of mechanistic tectonics. That approach has led him to successfully expressing the Newtonian gravitational proportionality G (and thus gravity) via speed of light at both every-day and quantum scales, just as **Einstein** hinted in his rare geophysics work. That derivation also represents the first proof of **Multiverse** of Tegmark's Level I in which other universes orbit about our universe, and the disproof of any alternative types (fairytale scenarios).

Previously unexplained yet widely spread polygonal (mostly hexagonal) "cratering" – photographed by various **Space** probes throughout our Solar system (*image*) – is reproduced in resonance experiments. This consistency supports the result that the mechanical resonance is a cross-scale universal physical phenomenon, but one ignored in the past. As such, we must consider it in addition to or instead of gravitation and fundamental physical forces.

Numinous concepts – used to patch up failed cosmological theories commonly based on the "Big Bang" scriptural forgery by a Catholic Church's employee, such as "black holes", "dark matter" and "dark energy" (**all of which can only be inferred but never observed, conveniently so for the Church as usual**) – are not required anymore, as this discovery unveiled the "Holy Grail" of physics from observing whole Earth and whole Moon as our largest tangible laboratories of all.

See the next page for the image accompanying this News Feature -»

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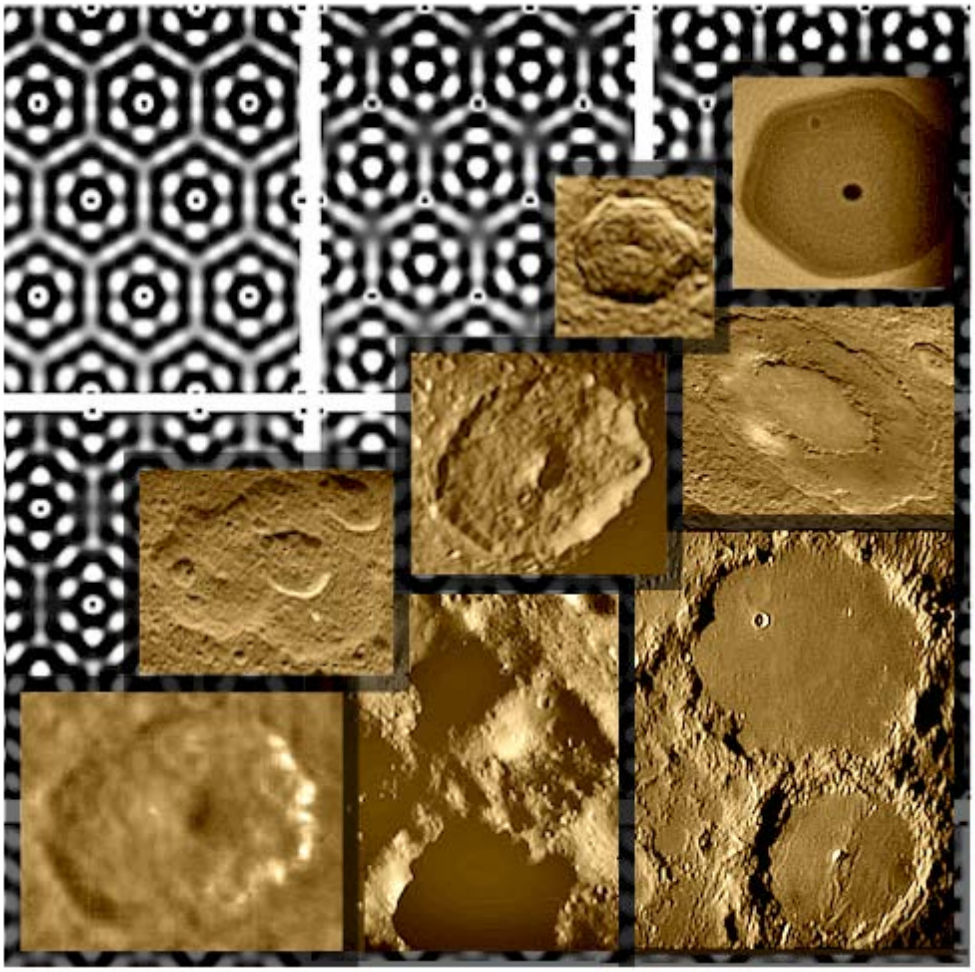

Image caption – full version: Polygonal (mostly hexagonal) morphology as photographed by various Space probes throughout our Solar system (callouts), overlaid on theoretical (Faraday-latticing) polygonal morphology as expected experimentally under external forcing, cf. Tse et al. (2000) *Physica D: Nonlin. Phenom.* 146(1-4):367-387. (Source: *Journal of Geophysics* 63:30-42. See the image source.)

Alternative image caption – short version: Polygonal "craters" common in our Solar system (callouts) v. the theoretical (Faraday) resonance polygonal morphology obtained experimentally.

Public press release from this News Feature: full version (mirror) and short version.

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