

'Footquakes': Messi really does make the Earth tremble

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Forward Lionel Messi literally makes the Earth move when he scores a goal for Barcelona, scientists say

It's a scientific fact: when living football legends Neymar or Lionel Messi scores a goal, the Earth moves and the ground shakes.

Don't believe it?

Ask Jordi Diaz, a researcher at the Institute of Earth Sciences Jaume Almera in Barcelona. He's got the hard proof.

"We put a seismometer inside a building in Barcelona," he explained at a geosciences conference in Vienna, where he presented his findings.

"This allowed us to identify signature vibrations produced by different activities, including traffic or subway trains."

Or football matches.

By design or not, the instrument—which measures everything from tremors to full-on quakes—was about half a kilometre from Nou Camp stadium, home to the city's fabled football team.

"We get information every time there is a goal," he told journalists at a press conference.

"Well," he corrected himself, "every time Barcelona makes a goal. People jump, and the stadium shakes."

Exhibit A: a graphic display of the Champions League knockout tie last month versus English team Chelsea that saw Messi score twice in a 3-0 Barca victory.

The inky spike provoked by his first goal, after three minutes of play, looked like the lie detector answer when the murderer swears he didn't do it.

The second goal—an hour later when the game was largely won—didn't provoke the same level of vertical enthusiasm.

Dancing, not jumping

The historic, come-from-behind, 6-1 victory against Paris Saint Germain last year, which put Barcelona into the Champions League quarter finals, looked like a crescendo of earthquakes ending in the Big One.

But a football game is not—seismically speaking—the same as a concert.

"Sometimes we have beautiful seismic recordings from rock concerts, particularly Bruce Springsteen or U2," he said.

"You see what we call 'harmonic structures', energy localised in a precise amplitudes," he explained.

"This is because people are not jumping, they are dancing."

He recalled a Springsteen concert from last year in which "every single song had a particular pattern."

Marathon races, wind bursts, ocean waves—each has its own seismic signature, he said.

Why bother?

"At first, it was mainly for outreach, to show people how a seismometer works," he conceded.

But then other applications came into focus.

The technique, for example, could be an easy, inexpensive way to do long-term survey of traffic or subway activity.

And it could be handy as evidence that transport workers have gone on

strike, he added.

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