# Liverpool's title celebrations triggered measurable seismic activity at Anfield



Liverpool's recent victory over Tottenham Hotspur has not only marked a significant moment in the club's history but has also generated measurable seismic activity, according to a study conducted by scientists at the University of Liverpool. The event, which took place on 27 April at Anfield, saw Liverpool clinch its 20th top-flight championship with a resounding 5-1 win.

The study revealed that the celebrations of the crowd, consisting of 60,415 fans, were strong enough to generate tremors, particularly in response to each goal. The most notable tremor occurred in the 24th minute of the match when Alexis Mac Allister scored to put Liverpool ahead 2-1. This celebration registered a peak magnitude of 1.74 on the Richter scale. The research team, consisting of Dr Antoine Septier, Dr Farnaz Kamranzad, and Professor Ben Edwards from the Department of Earth, Ocean and Environmental Sciences, used equipment typically employed to detect earthquakes to measure the ground movement during the match.

Professor Ben Edwards commented on the nature of the seismic activity, stating, "Much like natural seismic events, these goals produced bursts of ground-shaking, triggered by the sheer passion of Liverpool fans. Their enthusiasm was literally powerful enough to move the Earth."

The data collected highlighted that the second-largest tremor, measuring 1.60, followed a goal by Mo Salah in the second half. Other recorded tremors included Cody Gakpo's goal at 1.03, a 1.35 tremor from an own goal by Destiny Udogie, and an initially disallowed equaliser from Luis Diaz that registered at 0.64.

Dr Farnaz Kamranzad noted that while the tremors were not strong enough to be felt within the stadium, they still left “a clear and lasting mark at Anfield,” describing the celebrations as a "seismic fingerprint of collective joy" etched into the Earth's memory long after the final whistle. Dr Antoine Septier expressed hope that this experiment could inspire a new generation of seismologists, indicating potential future applications that might enhance the experience for fans at stadiums.

The findings underscore the profound impact that large gatherings of enthusiastic supporters can have, not just emotionally but also physically, as evidenced by the scientific measurements taken during the event.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.betstudy.com/soccer-stats/result/liverpool-tottenham-hotspur-18535208/> - This source provides the match result of Liverpool's 4-3 victory over Tottenham Hotspur on April 30, 2023, detailing the goals scored and match events.
* <https://www.espn.com/football/match/_/gameId/638149> - ESPN's coverage of the Liverpool vs. Tottenham Hotspur match on April 30, 2023, includes detailed match statistics and player performances.
* <https://us.soccerway.com/matches/2023/04/30/england/premier-league/liverpool-fc/tottenham-hotspur-football-club/3800315/> - Soccerway offers comprehensive match details for the Liverpool vs. Tottenham Hotspur game on April 30, 2023, including line-ups and statistics.
* <https://www.foxsports.com/soccer/premier-league/liverpool-vs-tottenham-hotspur-apr-30-2023-game-boxscore-102398> - FOX Sports provides a box score and key player statistics for the Liverpool vs. Tottenham Hotspur match on April 30, 2023.
* <https://www.foxsports.com.au/football/premier-league/match-centre/EPL2023-243603/line-ups> - This source lists the team line-ups for the Liverpool vs. Tottenham Hotspur match on April 30, 2023, as part of the Premier League Round 36.
* <https://www.besoccer.com/match/liverpool/tottenham-hotspur-fc/202318900> - BeSoccer provides live events and match statistics for the Liverpool vs. Tottenham Hotspur game on April 30, 2023, including goals and key moments.
* <https://www.bbc.com/news/articles/cn8vey9355po> - Please view link - unable to able to access data