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Simultaneous and intercontinental tests show synchronism between the local gravimetric tide and the ultra-weak photon emission in seedlings of different plant species

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Abstract

In order to corroborate the hypothesis that variations in the rate of spontaneous ultra-weak photon emission (UPE) from germinating seedlings are related to local variations of the lunisolar tidal force, a series of simultaneous tests was performed using the time courses of UPE collected from three plant species-corn, wheat and sunflower-and also from wheat samples whose grains were transported between continents, from Brazil to The Netherlands and vice versa. All tests which were run in parallel showed coincident inflections within the UPE time courses not only between seedlings of the same species but also between the different species. In most cases, the UPE inflections were synchronised with the turning points in the local gravimetric tidal variation. Statistical tests using the local Pearson correlation verified these coincidences in the two time series. The results therefore support the hypothesis of a relationship between UPE emissions and, in the oscillations, the local gravimetric tide. This applies to both the emissions from seedlings of different species and to the seedlings raised from transported grain samples of the same species.

Keywords: Biophoton emission; Chronobiology; Gravimetric tide; Seed germination.

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