

Physics Colloquium

UNIVERSITY OF MISSOURI-KANSAS CITY
DEPARTMENT OF PHYSICS

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University of Kansas



Biodiversity Cycles and Galactic Dynamics

After decades of tantalizing partial results, the existence of periodicity in fossil biodiversity has finally been put on a firm statistical basis: there is a significant 62 Myr cycle in fossil biodiversity, with amazing agreement between independent analyses. We note that this cycle agrees in period and phase with the oscillation of the Sun normal to the Galactic disk, in the sense that biodiversity minima coincide with excursions to Galactic north. We suggest an effect based on the generation of cosmic rays at shock waves due to larger-scale motions in the Local Supercluster of galaxies. I discuss the evidence for these periodicities and possible mechanisms to affect biodiversity.

Physics Department
Robert H. Flarsheim Science & Technology Hall
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Coffee at 3:10, Colloquium at 3:30 in Room 310