

Snowball Earth events driven by a starburst of the Milky Way Galaxy

KATAOKA, Ryuho^{1*}, Toshikazu Ebisuzaki², MARUYAMA, Shigenori¹, MIYAHARA, Hiroko³

¹Tokyo Tech, ²RIKEN, ³Tokyo University

Possible origins of the Snowball Earth events have been studied for a decade and still remain as enigma. External forcings from space may be able to reasonably explain the Snowball Earth events. Here we show the starburst hypothesis that the Snowball Earth events are caused by the frequent encounters with dark clouds and supernova remnants during starbursts. The predicted time intervals from the galactic history are consistent with the time intervals decoded from the Earth's history. The substructures of several super-cool/super-warm cycles during a Snowball Earth event can also be explained by the individual encounters of the nebula during a starburst. The important research target is to elucidate the mechanisms of the connection between the Earth and space to suggest specific methodologies to collect evidence from the geological record in the Earth's history.