1106-AC-2359 **Edward Belbruno*** (belbruno@princeton.edu). *Lithopanspermia Hypothesis.*

The Lithopanspermia Hypothesis addresses a long standing question on the origin of life on Earth. It proposes that life on Earth started due to biogenic material trapped within meteoroids that crashed into the Earth and was released into the environment. The origin of the meteoroids, or rocks, would be from the surface of planets orbiting other stars within the original cluster of stars that the Sun formed within, and were transferred to the Earth. We provide a solution to the transfer aspect of this hypothesis. Previous studies have shown that the probability of transfer of material from a planet of one star to be captured by another star was very unlikely. In a recent paper published by this speaker, together with A. Moro-Martin, R. Malhotra, and D. Savransky, we show that by using the weak escape mechanism, which is chaotic in nature, the probability of solid material to be captured by another star in the cluster, increases dramatically by a factor on the order of one billion, thereby making the lithopanspermia much more likely and providing a viable transfer mechanism. (Received September 16, 2014)