

In Support of Iron-Hydride and Nickel-Hydride in Earth's Inner Core

Jeffrey J. Wolynski
Jeffrey.wolynski@yahoo.com
Rockledge, FL 32955

Abstract: According to the General Theory of Stellar Metamorphosis, planet formation is stellar evolution. This means all properties of planets are a direct result of the conditions present when they were younger stars and their orbits around other hosts. The Earth's inner iron core is less dense than its outer core due to being bombarded with iron/nickel from outer space, as it was composed of liquid metallic hydrogen, which formed a bond with the iron and nickel, forming iron and nickel hydride. Drawing from this hypothesis, the zone with which the inner iron core's density changes (becomes denser in the outer iron core), is a clue to when the majority of the hydrogen could no longer form bonds with the iron/nickel. This in turn can be used to explain how, why and when the pressures changed during iron core formation, due to both evaporation of the hydrogen due to mass loss of the star and chemical factors. That in turn can tell us how thick the atmosphere was during this transitional stage, and give far more information than is what made possible with the iron-catastrophe hypothesis.

Earth's inner core is 9.9-12.2 g/cm³ and the outer core's density is between 12.6-13 g/cm³. The density difference can be explained as being iron and nickel hydride which formed earlier when the Earth was a "gas giant". Unfortunately, the term "gas giant" is outdated, as they are mostly liquid metallic hydrogen and helium. During a star's youth, such as the Sun, which is only a few million years old, it can collect lots of interstellar iron. This iron will combine with the hydrogen under extreme pressures and start off the inner core formation processes well into red dwarf stages of evolution.

As the Sun transitions from red dwarf stages to brown dwarf stages of evolution, the iron that enters can no longer be combined in large amounts with the hydrogen. This means iron hydride formation will fall off, and the outer core will then be composed of more pure iron/nickel alloy. This process takes hundreds of millions of years, as Jupiter is about 700 million years old, and Saturn about 550 million years, but both are hypothesized to already have fully formed inner and outer iron/nickel and iron/nickel hydride cores.

Determining how this transition occurs and the conditions during are going to be researched in depth with analysis of meteorites, which are pieces of dead stellar cores that have evolved over billions of years. It should also be researched how the hydrogen can escape from its bond with iron when the pressure is released during long scale star core ablation, via the Krypton Hypothesis. Meteorites could possibly have lots of cracking and evidence of previous hydride formation. As well, it should be researched that iron and nickel are catalysts given certain conditions are met, and are in full abundance inside of stars as they evolve. This in turn could put some pieces together with reference to the origins of life.

References

The Definition of Star, <https://vixra.org/pdf/2209.0052v1.pdf>

Iron Hydride in the Earth's Inner Core and Its Geophysical Implications

Hua Yang, Joshua M. R. Muir, Feiwu Zhang

<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022GC010620>

The Krypton Hypothesis, <https://vixra.org/pdf/1704.0238v1.pdf>

Stellar Metamorphosis: The New Gyrochronology, Version 4,

<https://vixra.org/pdf/1906.0146v3.pdf>