2016 Proposal

Team Number:

School Name: Academy for Technology and the Classics

Area of Science: Earth and Space Sciences

Project Title: The Impact Caused by a Reversal of Earth's Magnetic Field

Throughout Earth's history, there have been multiple occasions during which the magnetic poles have reversed. These are brought on by groups of iron atoms becoming reverse-aligned. As the amount of reverse-aligned atoms start to outweigh the rest, the magnetic field and poles reverse. The last pole reversal the earth underwent was during the Stone Age, around 780,000 years ago. Though a pole reversal can take anywhere from 1,000 to 10,000 years, there is a chance that it will have drastic effects on humans and other species on the Earth throughout the entire reversal, including creating holes in the ozone layer, inhibiting the ability of certain species to know how and when to migrate, and causing a decrease in the intensity of the magnetic field, leading to a decrease in protection the field offers the planet.

Using data collected from already published research papers around the world, we plan to use Python to model the changes in reverse-aligned iron atoms and the beginning of a pole reversal, followed by a projection of a complete pole reversal and the affects it will have. We also plan on modeling the most recent pole reversal if sufficient data can be collected.

Language: Python

Team Members:

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Sponsoring Teacher:

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