

NuFact 2022: The 23rd International Workshop on Neutrinos from Accelerators

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The Internal Structure of the Earth

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For a century the earth's interior (core (liquid)-mantle-crust) has been recognized and since we have identified a solid inner core and now many new structures that are "anchored" on the core-mantle-boundary (CMB). Moreover, we have successfully imaged subducting oceanic plates penetrating the upper mantle and many entering the lower mantle (>660 km). Over the last two decades, geoneutrino flux measurements are quantifying earth's radiogenic power, giving us the first global determination of bulk composition. More recently the detection of atmospheric and cosmological neutrinos that have traversed the earth are offering a new opportunity to measure other attributes of the earth's interior, mainly its density structure and hydrogen content. The age, origin, nature, and dynamic evolution of these structures will be discussed.

Presenter: MCDONOUGH, Bill

Session Classification: Workshop