

IceCube Polar Science Workshop



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South Pole Ice Core (SPICEcore) - What has been accomplished, what is below 1751 m, and synergies with the new Hercules Dome project

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It has been 4 years since the completion of the SPICEcore project in the field. The SPC14 ice core was drilled to a final depth of 1751 m and the measurements funded with the first wave of science proposals have already been completed. More than half of the SPC14 ice core is archived at the NSF ice core facility in Denver and will be available for future measurements for years to come. The age of the SPC14 ice core at 1751 m is 54.3 ky BP (thousand years before 1950 CE). The bedrock at the SPICEcore site is close to 2850 m and modeling suggests there is undisturbed ice through the Last Interglacial Period (130 ky BP). The recently funded Hercules Dome project aims to collect an ice core to bedrock which contains LIG ice from the intersection of East and West Antarctica (86°S, 105°W). Hercules Dome is on the edge of the Transantarctic Mountains overlooking the West Antarctic Ice Sheet, which heavily influences the meteorology and the climate signal at Hercules Dome. In this talk, we briefly review the scientific potential of a deep ice core near the SPICEcore site and potential synergies with the Hercules Dome project within the context of possible future collaborations in ice coring at the South Pole.

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