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700 DRILL DEVELOPMENT AND FIELD PERFORMANCE

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Following a call by U.S. scientists in the U.S. National Science Foundation (NSF) Ice Drilling Program (IDP) Long Range Science Plan, IDP undertook the design and fabrication of a new ice coring drill capable of 700 m depth but light enough for use in remote areas such as mountain glaciers. To minimize associated logistics, including the amount of drilling fluid and ice core boxes required, the drill was designed to collect 70 mm-diameter ice cores. The system was designed, fabricated, and used for an NSF-funded science project conducted at Summit Station in summer 2024. This presentation will highlight the design of the drill system, including features adopted from the Hans Tausen and IDP Foro series drills, as well as new features incorporated. A review of the 2024 field season will cover drill system performance, auxiliary systems used, lessons learned, and drill modifications envisioned by IDP.

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