

The Cyclotron Lives On!

Dr Daniel Winklehner

26th July 12pm 50 Auditorium



Coming soon:

Aug 30th: Advances with TimePix3

Sep 27th: Neuro-on-chip: Intel's Loihi

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The HCHC (High Current H_2^+ Cyclotron) family allows the fabrication of cost-effective, compact cyclotrons from 1.5-60 MeV/amu. Accelerating H_2^+ , injecting through an RFQ embedded axially in the cyclotron yoke, and vortex motion allows a beam current of 10 mA: a x10 increase over commercial cyclotrons. Building the 1st 1.5 MeV/amu prototype is underway. Beyond neutrino physics, the HCHC cyclotrons can be applied in medical isotope production and fusion-relevant material testing.

Daniel Winklehner was born and raised in Vienna, where he studied applied physics at the University of Technology. After a one-year visit at LBNL working at the 88" Cyclotron with the VENUS ion source, he joined MSU where he graduated with a PhD in 2013, and then MIT as a postdoctoral associate. In 2018 he became a research scientist at MIT and the Co-spokesperson of the IsoDAR project. For his work on compact cyclotrons, Winklehner recently received the Hogil Kim Prize at the 2022 IPAC conference and the 2022 APS DPF Instrumentation Early Career Award.

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