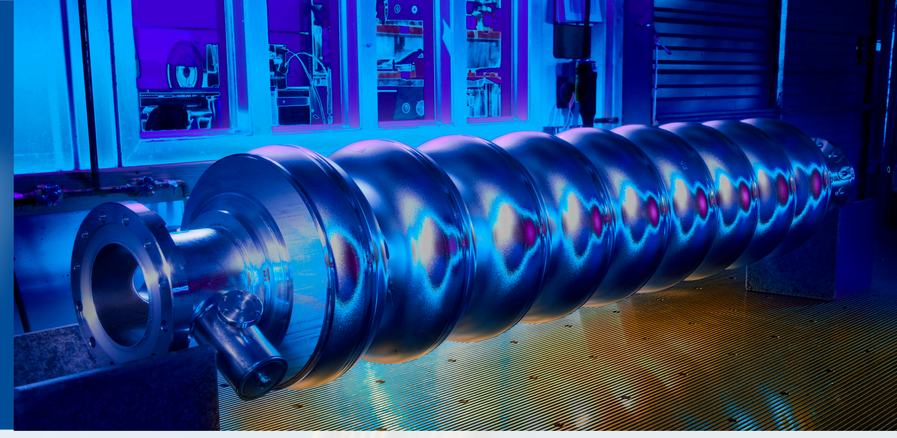
Vertical Cavity Test Facility



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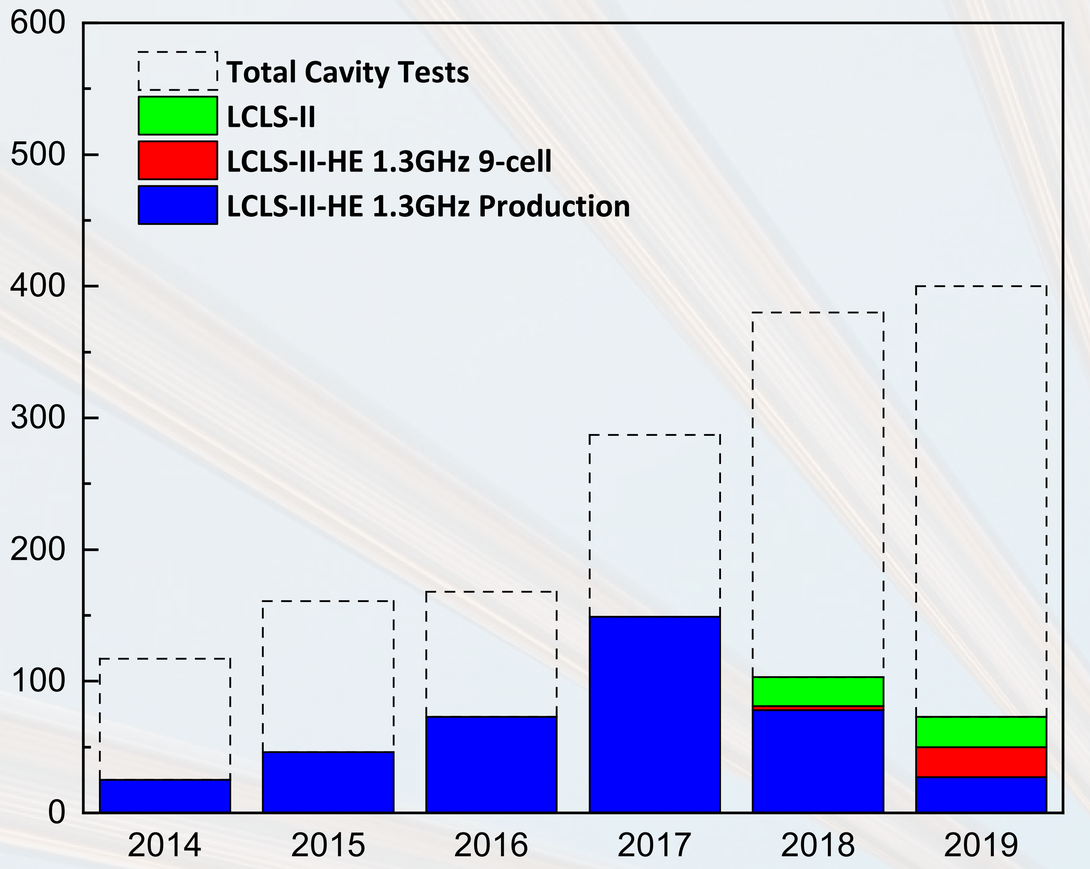
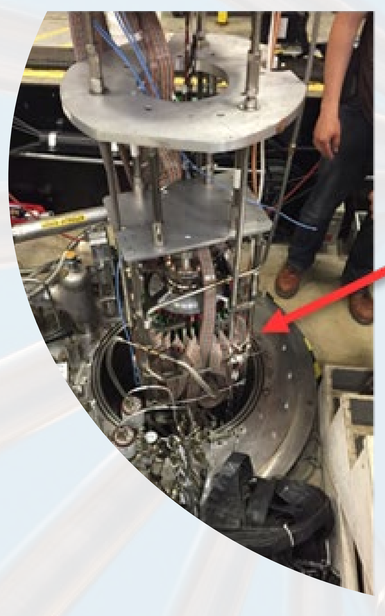
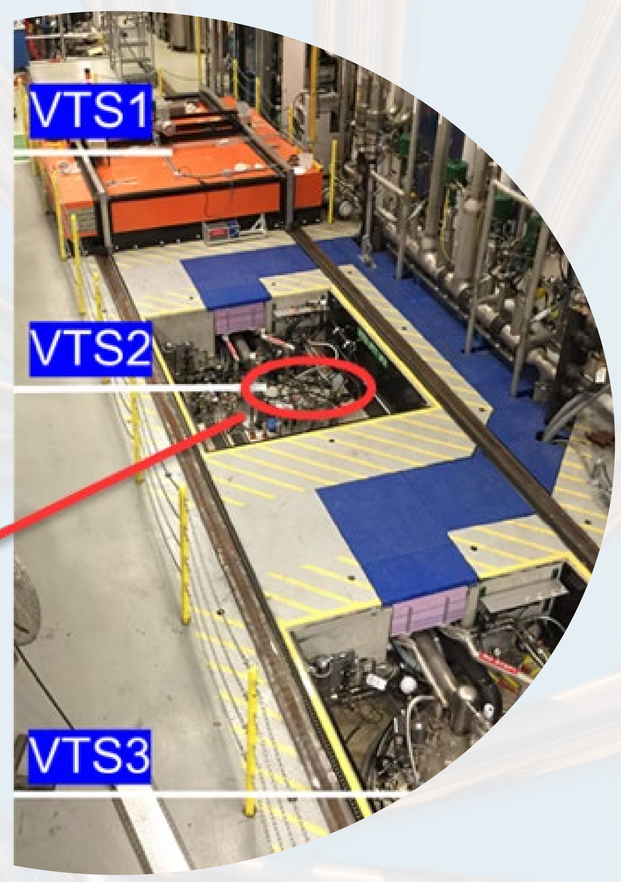
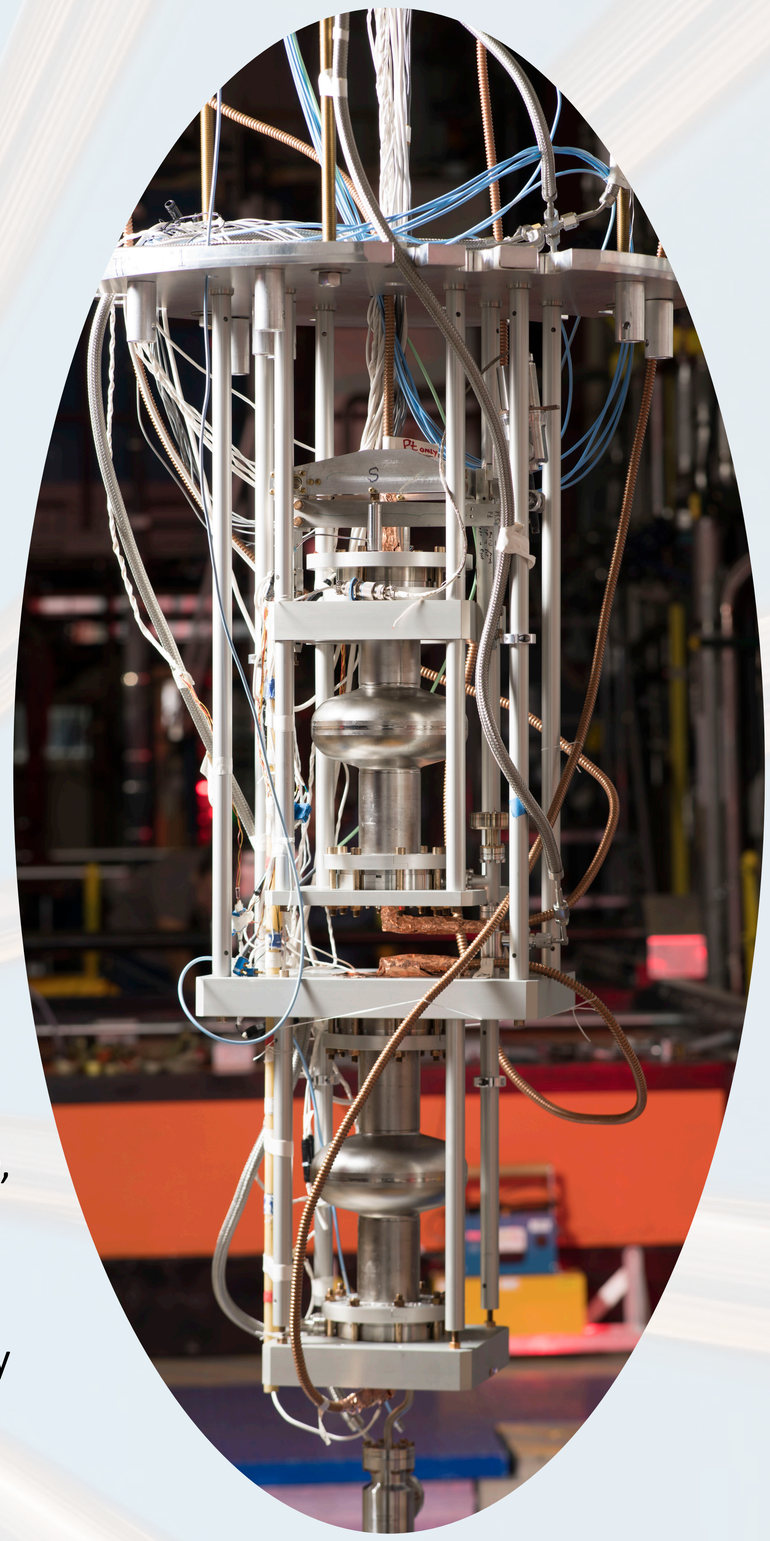


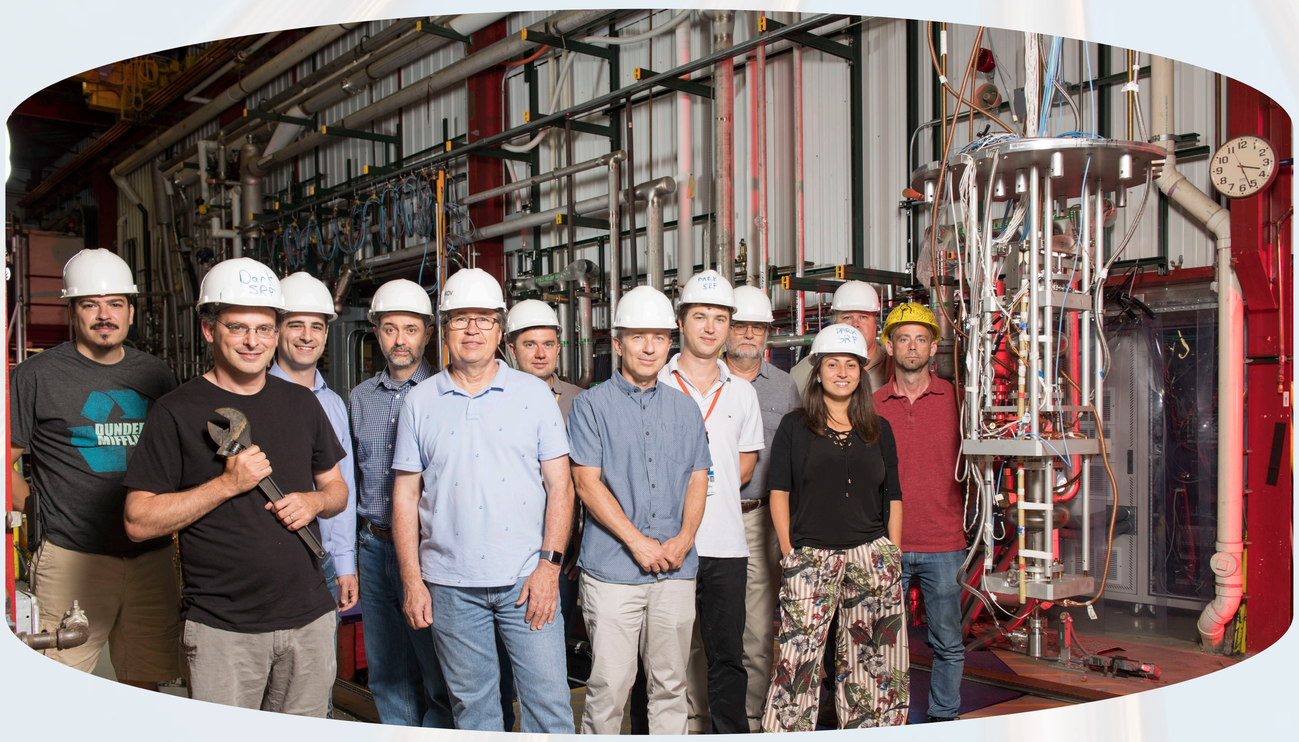
- Facilities serve multiple projects and programs, with three VT dewars available
  - Four cavity cooldown per time, broad frequency range capability
  - State of the art diagnostics (second sound, Tmap, FGs, RTDs, …)
  - <5-7 mG remnant field, or active cancellation
  - Demonstrated up to 12 LCLS-II cavities/week test
  - New He liquefier purchased







- Multiple VTS maintained/operated by DOE HEP GARD, serving multiple programs and projects
- Hundreds of doped cavities tested and processed every year, up to 20 cavities a month re-HPR for LCLS-II



- Dark SRF experiment is an example of physics experiment using unique VTS capabilities and is a low hanging fruit, given the unique and world leading Fermilab SRF capabilities
- Another example : search to axions with very high Q crossed with B field (compatible with SRF cavities, up to ~200 mT), where orders of magnitude in sensitivity can be gained
- Upgrade path will bring enhanced and unprecedented sensitivity, but will require additional resources (technical and equipment)
- More on this in Alex Romanenko's poster

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