Development of compact accelerators

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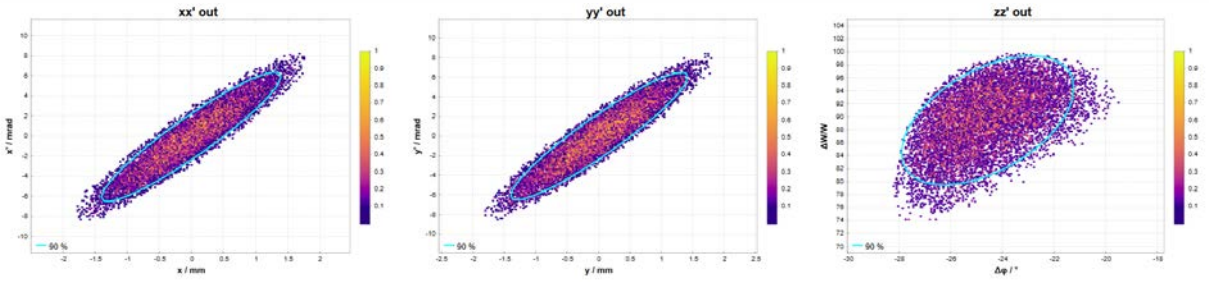
Compact cavity development / new technologies

- *Additive Manufacturing may be the future for (some) accelerators*

- *Prototype development & Proof of concept under way*

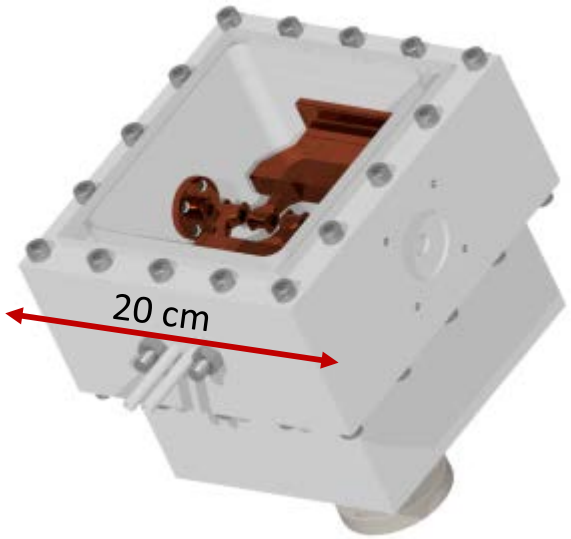
Project goals:

- Surface preparation & mechanical tolerance procedures for new technology
- Vacuum, LLRF & power tests of cavity prototype
- New accelerator designs without conventional design constraints



Materials Testing & Vacuum Testing

Prototype cavity



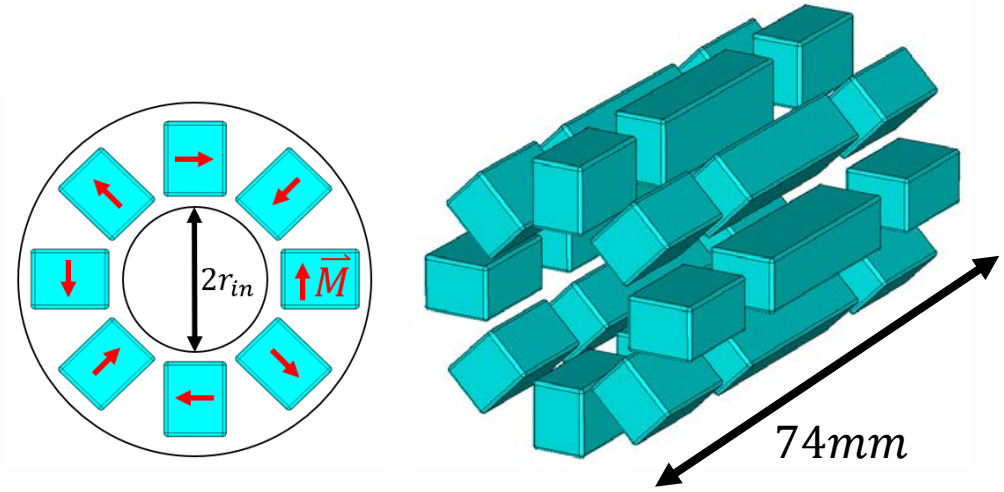
Compact Permament magnet quadrupol triplets

- *PMQs: efficient solutions for compact accelerator concepts*

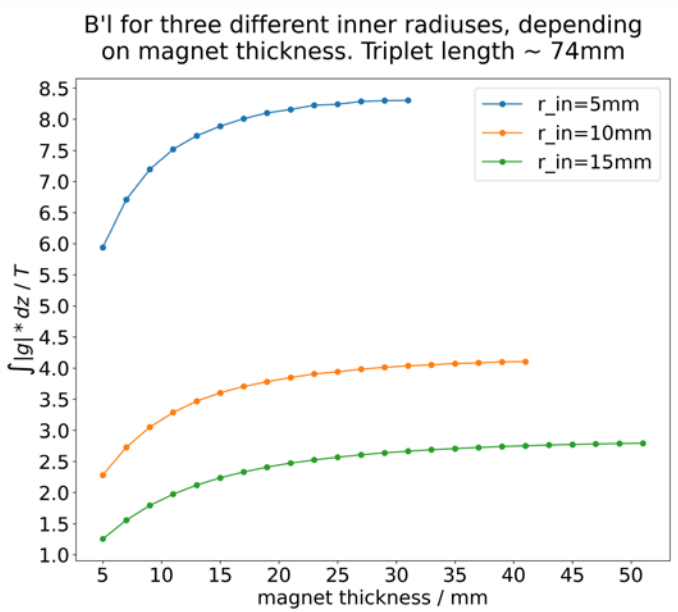
- *Field quality and component complexity have to be balanced*

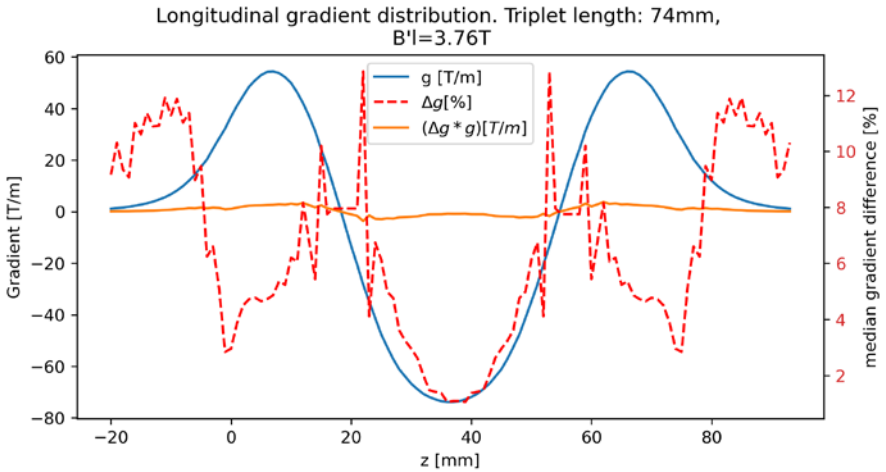
Project goals:

- Shape/lattice optimization
- Numerical/Analytical models
- Prototype development & testing (incl. beam tests)



High gradients in small form-factor





Courtesy of J. Kaiser, IAP