Plans and Ideas - DESY FH

- in AMALEA focused on applying generative networks (GAN,WGAN,BIB-AE) to the **fast simulation** of electromagnetic showers in the highly granular Si-W ECal of ILD
- would like to continue and extend this successful work in **AMALEA**²:
 - address yet unsolved questions: different particle types (hadrons), incident angles and impact parameters
 - apply to more complicated and heterogeneous calorimeters geometries, e.g. the CMS-HGCal
 - needs more advanced network topologies, e.g. graph-neural networks
- would like to investigate the possibility of using quantum computing
 - already some expertise at DESY in this new exiting field
 - quantum computing would clearly add a challenging new field to the proposal
 - could be also interesting for other partners ?

F.Gaede **D.Krücker**



E.Buhmann et al:

Getting High: High Fidelity Simulation of High Granularity Calorimeters with High Speed arXiv:2005.05334





