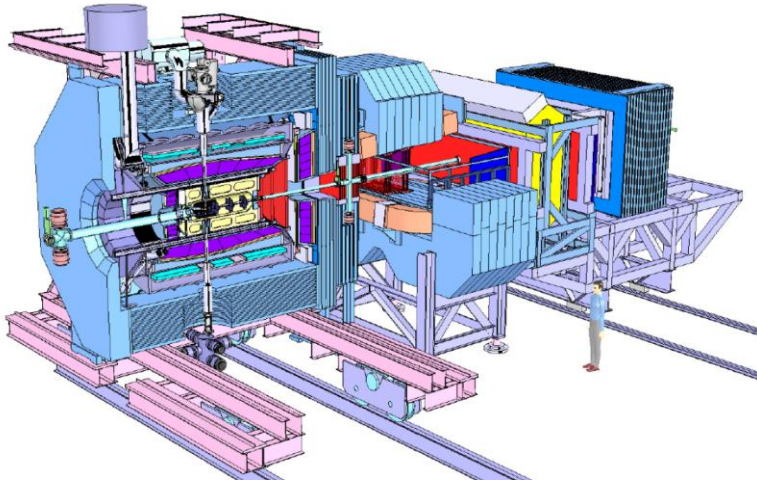# FPGA online tracking algorithm for the PANDA straw tube tracker
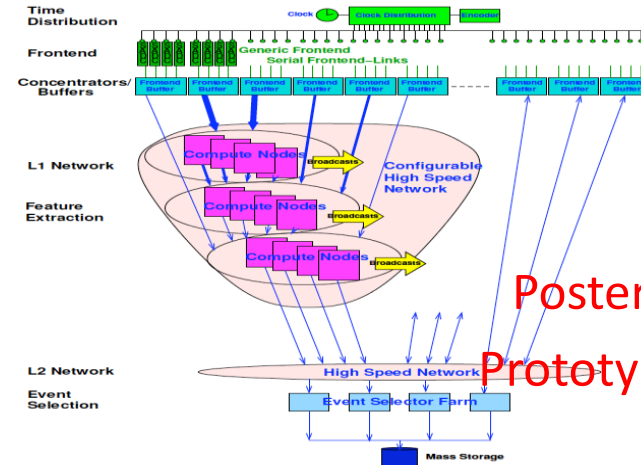
Yutie Liang, Martin Galuska, Thomas Geßler, Wolfgang Kühn,

Jens Sören Lange, David Münchow, Björn Spruck, Milan Wagner

II. Physikalisches Institut, JUSTUS-LIEBIG-UNIVERSITÄT GIESSEN
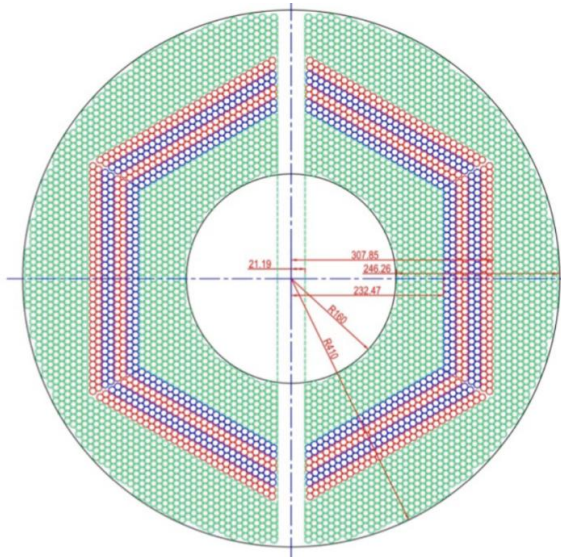
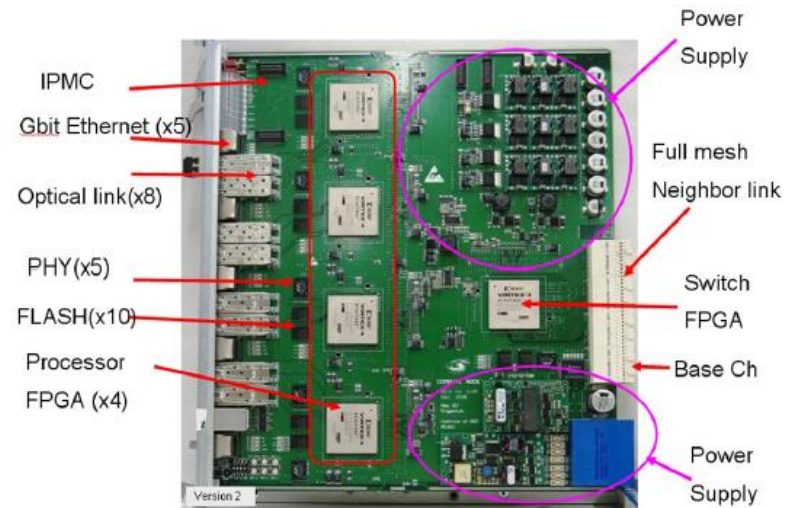# Difficult situations we are facing to

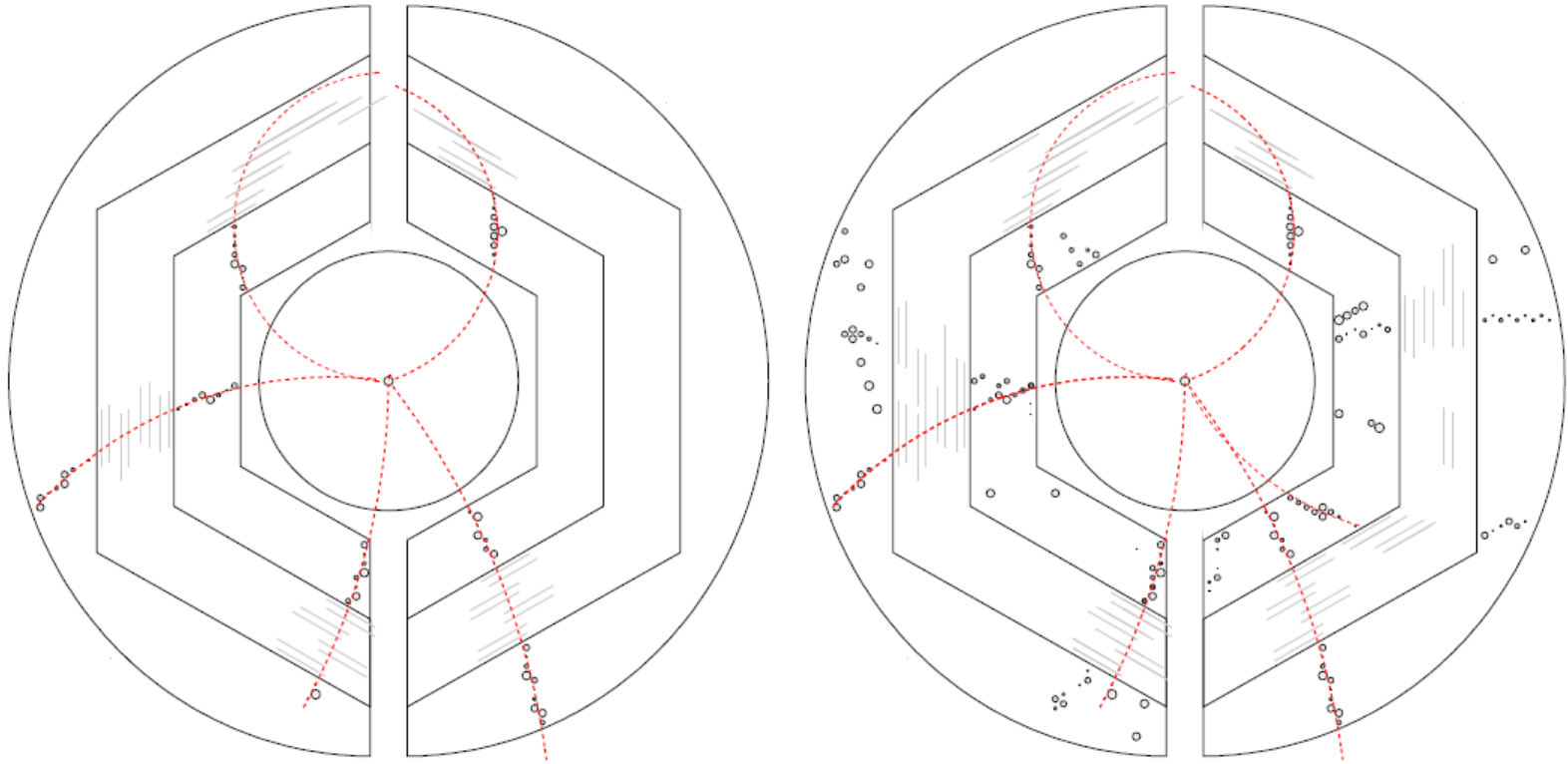High interaction rate: 20 MHz

Poster #122

Prototype DAQ

Reject factor : 1000

Straw Tube Tracker,   (Slow response)

Power Supply

Full mesh Neighbor link

Switch FPGA

Base Ch

Power Supply

IPMC

Gbit Ethernet (x5)

Optical link(x8)

PHY(x5)

FLASH(x10)

Processor FPGA (x4)

Algorithm on FPGA: track finder + track fitter

How does a track be found?

How does a helix parameter be calculated with FPGA?

How about the efficiency?   resolution?   speed?

Please go to Poster # 150