Thesis Status

Progress in the last month

> Raffael Niemczyk, Zeuthen, August 27th 2020

Convergence Studies

Checking convergence of virtual slit scan experiment in Astra

> Tracking (Astra) until before slit mask

> > Further **tracking** in drift space

> > Space charge forces included

> > Scanning number of **hor. mesh cells**

> > Results not ready yet

> Also scanning number of macropartricles

> > I use 2M macroparticles

> > Scan also done with **200k, 500k, 1M, 1.5M particles**

> > **Outer slit positions cannot be simulated** with small particle numbers

> > Time consuming

> > Results also not ready yet

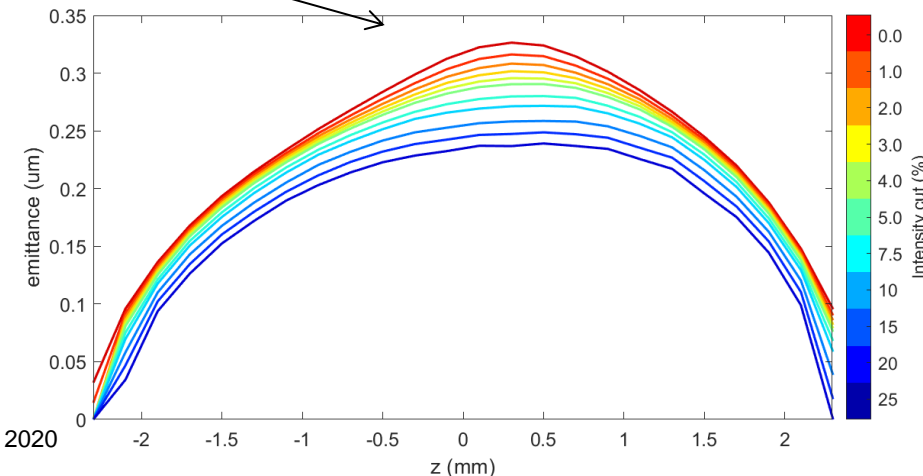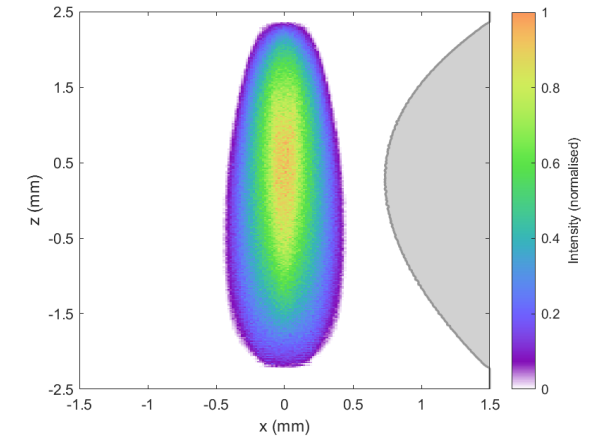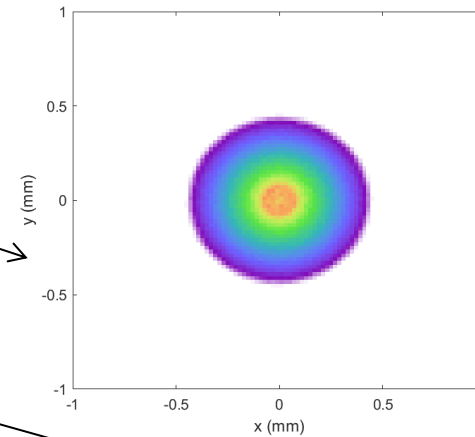> > Astra simulations postponed until convergence studies finished

Intensity Cuts

Studies of systematic error based on intensity cuts

> Optimising distributions in Astra

> > Minimal **projected emittance** at EMSY1

> > Tweaking pulse length to **match peak current** (24.1 Amp)

> Minima found, tracked distribution to EMSY1

> > Prepared **real space**, **phase** & **slice phase space** images

> > **Intensity cut** studies done

> > Results plotted, **plots added in thesis**

> > Section to be written

> Long. Gaussian, transverse flattop
> Long. & transverse Flattop
> Long. Gaussian, transversely truncated Gaussian
> Ellipsoidal laser profile

DESY DROC

Organisation and execution of Doctoral Researchers Online Conference

> **Reduced conference programs** due to Corona

  > **Lack of presentations** for Phd students

  > Organisation of **Conference at DESY**

DESY Doctoral Researchers Online Conference

19-20 August 2020
Online
Europe/Berlin timezone

> Only small conference held

  > In total 9 talks were given

  > From **different research divisions** at DESY

    > Accelerators, astroparticle physics, photon science

Overview

Call for Abstracts
└ View my Abstracts
└ Submit Abstract
Timetable
Registration
└ Registration Form

Did you have a conference that was cancelled this summer? Were you planning on giving a talk? If you are reading this text, that's pretty much a guarantee. Even in these times of virus and unrest, our research continues. With most of the normal avenues gone, wouldn't it be nice to have a place to practice your speaking skills in preparation for your defense or other high profile engagement? If you agree, then please join us for the first annual DESY Doctoral Researchers Online Conference!

Starts Aug 19, 2020 09:30
Ends Aug 20, 2020 12:00
Europe/Berlin

Online

> I was involved in planning, and followed talks

  > **Presentation teaching** also given

  > Overall feedback was **positive**

  > Only medium number of students participated (30 max)

    > Was it really that interesting? Other reasons for not-attending students?

Other tasks

Script for beam-based TDS stability measurement, screen alignment

> TDS stability measurement

> > AFAIK, **not measured so far**

> > Beam-based measurement **closer to actual stability**

> > Script written, **not tested** so far

> > Postponed, due rf problems

> Beam-based stability vs. uTCA stability

> TDS time resolution usually calculated from vertical beam size when TDS off
> Actual resolution might be smaller, when jitter big

> Screen alignment

> > Alignment of several screen stations

> > Improvement of **alignment procedure** by software dev

> > Discussions with Osip & Grygorii (software dev., resoluMeter)

> Done, close to PITZ3.0 scheme

> Create PITZ scheme as **vector graphics**

> > **Adding 2nd tunnel** in drawing (**by Tobias**)

> > Feedback from Frank, possible iterations