

Visit of the Helmholtz-Alliance

Heavy Leptons & HUB Grid Investments

Oliver Maria Kind

Humboldt Universität zu Berlin

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Search For Super-Heavy Charged Leptons

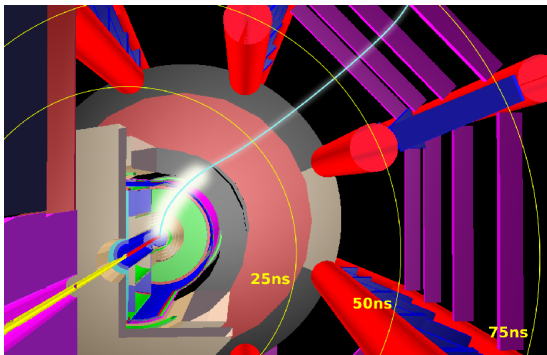


HA Visit

O.M. Kind

Physics
Programme
Heavy Leptons

GRID
Investments
2007
2008



- Predicted by some SUSY models ($\tilde{\tau}$, R-hadrons)
- Present mass limit ~ 100 MeV
- Might be long-lived
- Late arrival in μ -system
→ trigger
- Large energy loss in ID
→ particle id with TRT

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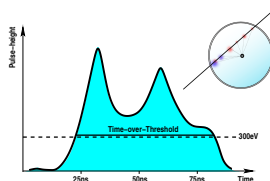
2007
2008

- Particle identification by means of **time-over-threshold** $\sim$ energy loss
- Path length inside straw known
 $\rightarrow dE/dx$ observable
- Timetable:

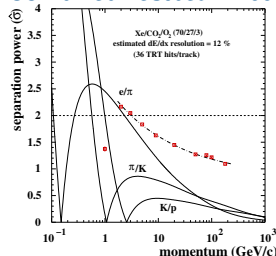
- **2007** Proof of principle, calibration + systematic studies with CTB data and MC
- **2008** Check with cosmic- μ data, Combine with μ -trigger (t.o.f) $\tilde{\tau}$ studies @generator level E_t and fast shower sim. studies
- **2009** Extension to ATLAS data

- Manpower:

1 Post-doc + 2 PhD + 1 Master
(wish for another PhD or Master)



Combined Testbeam 2004



[diplom thesis, D. Richter]

- 1 × ES-6616PF · RAID Array

RAID6 with Areca controller
10 TB hard disks



Total 8.0 k€

- 1 × Hewlett Packard DL380 G5 · Service Node

2 × Xeon E5430 (2.66 GHz)
16 GB RAM (8 × 2 GB)
7 × 146 GB SAS hard disks,
RAID6 Controller (P400)



- 3 × Hewlett Packard DL380 G5 · Head Node

1 × Xeon E5430 (2.66 GHz)
8 GB RAM (4 × 2 GB)
2 × 73 GB SAS hard disks, RAID1 Controller (P400)
+ RAID6 Controller for connecting MSA60 (P800)

- 3 × Hewlett Packard MSA60 · Storage System ~20 TB

12 × 750 GB SATA hard disks
+ cabling



- 4 × Hewlett Packard IB DDR · Network Adapters

PCI-E Dual Port HCA for DL380 G5

- **Extras:** Spare power supply units, pull-out rails for the servers,
3 years on-site service, licences for virtual media