CSSM Physics Report
14th ILDG Workshop

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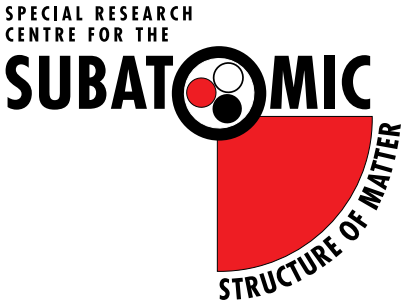


Current Computing facilities

Corvus

- Maintained by eResearchSA to serve South Australian Researchers.
- An SGI Altix XE1300 cluster, with 68 SGI Altix XE310 compute nodes.
- 544 Xeon 2.66 GHz cores in total.
- Theoretical peak of 6 Teraflops.
- Linpack benchmark of 4.5 Teraflops.
- Infiniband interconnect.

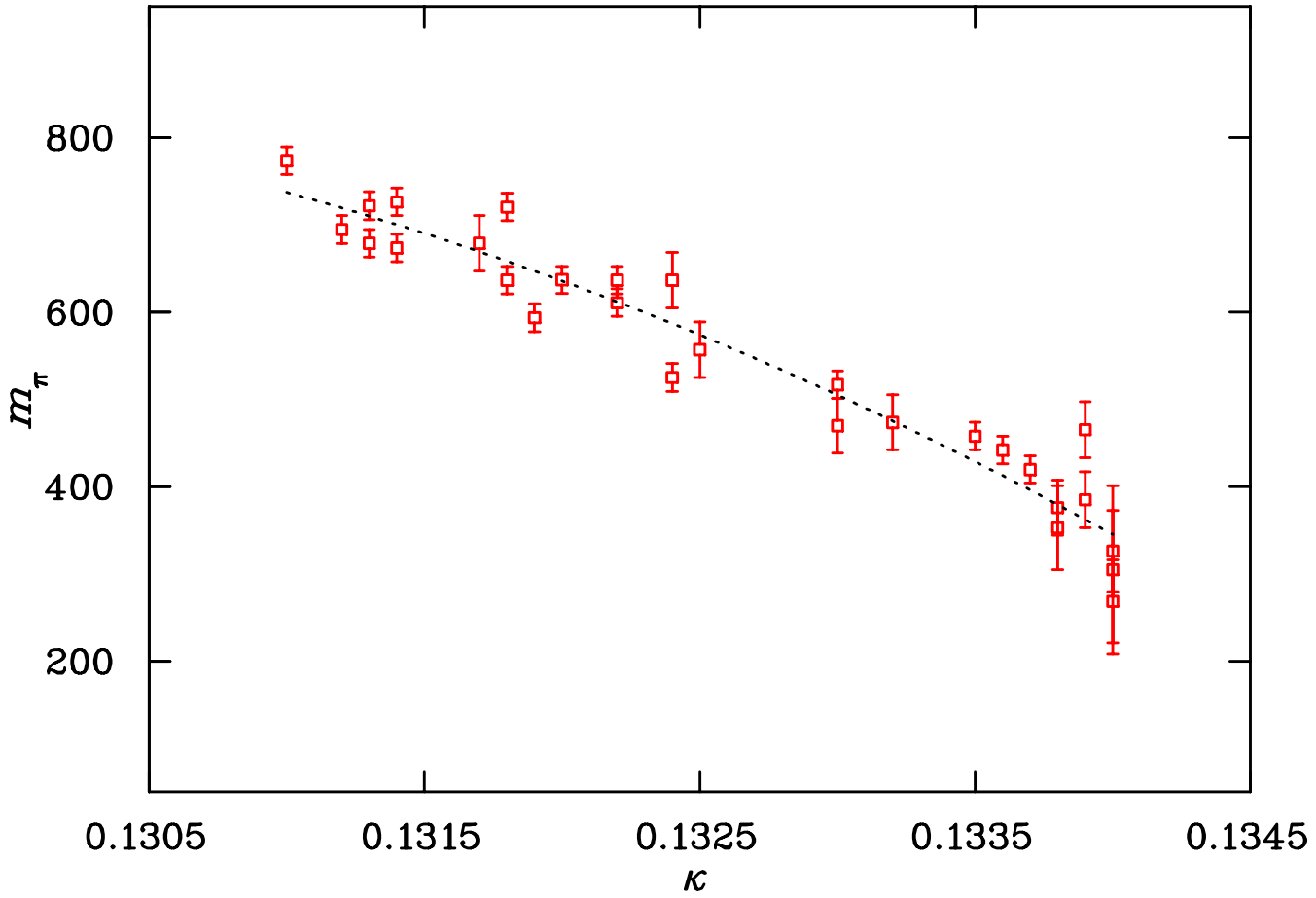
Current Computing facilities

NCI National Facility (Formerly APAC)

- National computing facility serving Australian Researchers in all fields.
- An SGI Altix 3700 Bx2 cluster.
- 1920 Itanium 1.6 GHz processors.
- Theoretical peak of 11 Teraflops.
- Numalink interconnect.

Dynamical FLIC fermion program continues

- m_π as a function of κ for $a \approx 0.125$.



Production Status

- Current status of $20^3 \times 40$ dynamical FLIC simulations.
- ILDG to be updated in 2nd half of 2009.

m_π (MeV)	Status
831	Tuning
770	Tuned
697	Completed
616	Completed
533	Completed
464	In Production
372	In Production
306	Tuned
250	Tuning

Future Facilities

Significant Initiatives in new Federal Government Budget

- $130M into High Performance Computing
- Extending the current National Facility to the petaflop scale
- Establishing a second national petaflop-scale centre in Perth
- Aggregate capability of 2-3 petaflops, 3 years from now.
- Apparently, “The research implications of this investment need to be grasped.” (Sigh...)
- Represents a significant change in Higher Education Support

Future Facilities

Significant Initiatives in new Federal Government Budget

- $48M to rapidly advance the development of the Australian Data Commons.
- $97M into data storage and collaboration infrastructure,
  - Collaboration services,
  - Data storage and
  - Cloud computing initiatives.
- $37M to achieve an Australian Research Network; a dedicated high capability connectivity (10Gbps and above) between all major research centres and research related assets.