ETMC meeting

Zeuthen 31-03-2006

Participants

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1 Presentations

Presentations will be available on the web page of the collaboration
http://www-zeuthen.desy.de/ kjansen/etmc/

- K. J.: Summary of the status of the $N_f = 2$ simulations with TlSym gauge action and Wilson twisted mass fermion action;
- C. U.: Status of the C code;
- P. B.: Status of the TAO code;

Here a summary of the status of the machines as reported at the meeting

Country	Machine [Peak performance]
G.B.	1 rack year QCDOC [1 TF]
I	2 Racks apeNEXT [1.2 TF]
F	1 Crate year [0.5 TF]
S	Mare Nostrum [1 TF]
G	1 Rack BGL [5.2 TF], 1 Rack apeNEXT [0.6 TF], IBM Regatta [1TF]

Table 1: *Status of the machines*

At the moment apeNEXT in Italy can only work on the crate mode, and there are problems to simulate a 24^3 lattice on a crate. Ideas to overcome these difficulties were discussed at the meeting. The 1TF of the IBM Regatta cannot be compared with the other performances due to the low throughput.

- C.U: format of the configurations; on this web page all available informations can be found
  http://www.liv.ac.uk/ urbach/ildg.html.
  - **Please get certificates**;
  - **Mark up configurations in ILDG format**;

- F.F.: status of the $N_f = 2 + 1 + 1$ smulations;
- G.C.R.: κ dependence of the PCAC mass and first analysis of the data;
- R. F. : Pseudoscalar meson masses and $O(a^2)$ effects;
- O.B. : Tuning the critical mass;

K.J. has summarized the computer power available and what could be done for the lattice conference:

Lattice 2006		
Machines	$24^3 \times 48$	$32^3 \times 64$
BGL	300 tr./d.	70 tr./d.
apeNEXT	300 tr./d.	70 tr./d.
QCDOC + MareNostrum	300 tr./d.	70 tr./d.

Table 2: *Computer power*

Following this table the following 3 scenarios were proposed:

Lattice 2006		
Scenario 1	Scenario 2	Scenario 3
10000 trajs.	2500 trajs.	5-10000 trajs.
a =0.12, 0.09 fm	a =0.12, 0.09, 0.075fm	a = (0.12), 0.09 fm
$24^3 \times 48$	$24^3 \times 48$, $32^3 \times 64$	$24^3 \times 48$
4 μ values	3-4 μ values	1 μ values
$\kappa = \kappa_c$ tuned	$\kappa = \kappa_c$ tuned	Several κ values

Table 3: *Scenarios for the lattice conference*

The collaboration has decided to go for Scenario 1 with a fall back option to continue to run, where possible, with low priority also at $a = 0.075$, $32^3 \times 64$ for the κ_c determination.
Further decisions were taken:

- The clover simulations are postponed after the lattice conference;
- One critical mass (determined at the lowest and "stable" μ value) will be used;
- The fermionic field should have antiperiodicity in time;
- The determination of the critical point should be such that the accuracy of the PCAC mass is below 10% of the value of μ.
- Next meeting: 22/23 - 06 - 2006 in Zeuthen (starting noon 22$^{\text{nd}}$, ending afternoon 23$^{\text{rd}}$);
- Benchmark point for comparison of several sources tecniques, smearing, and all that is $\beta = 3.9$, $\mu = 0.0075$, $\kappa = 0.1609$, $16^3 \times 32$;
- A decision has been taken for the logo (see web page).