QCD on the cell processor

Presenter: Nils Meyer — University of Regensburg
G. Bilardi, M. Drochner, N. Eicker, Z. Fodor, D. Hierl, T. Lippert, N. Meyer,
A. Nobile, D. Pleiter, A. Schäfer, F. Schifano, H. Simma, S. Solbrig, T. Streuer,
R. Tripiccione, T. Wettig

We present a recently started project which aims for a new generation of lattice QCD machines. The architecture which is currently under investigation is based on IBM’s Enhanced Cell processor. This next generation of Cell processors will provide full support of double precision floating point arithmetics. To use this powerful processor for lattice QCD calculations an application optimized network has to be developed. Our presentation will include first results from micro- and application benchmarks which have been produced on currently available Cell computers like IBM QS20 blades or PlayStation 3. The results are encouraging and show that this processor is an very interesting option for lattice QCD applications.