Benchmarking our supercomputers

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Abstract

This is a first attempt to organize my thoughts on my current work with creating and tuning benchmarks which show me our supercomputers' software and hardware health. The idea is to have a set of benchmarks based on real codes which allow me to see, in a short glance, if everything is fine.

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Introduction

Test [1], has become a popular shaping route for all kinds of macroporous materials. The process is based on the segregation of matter (particles or solute) by growing crystals in a suspension or solution (Fig. 1). After complete solidification, the solvent crystals are removed by sublimation. The porosity obtained is thus an almost direct replica of the solvent crystals.

[1] M. Berry, D. Chen, P. Koss, D. Kuck, S. Lo, Y. Pang, L. Pointer, R. Roloff, A. Sameh, E. Clementi, S. Chin, D. Schneider, G. Fox, P. Messina, D. Walker, C. Hsiung, J. Schwarzmeier, K. Lue, S. Orszag, F. Seidl, O. Johnson, R. Goodrum, and J. Martin. 1989. The perfect club benchmarks: Effective performance evaluation of supercomputers. *The International Journal of Supercomputing Applications* 3, 3 (1989), 5–40. DOI:https://doi.org/10.1177/109434208900300302

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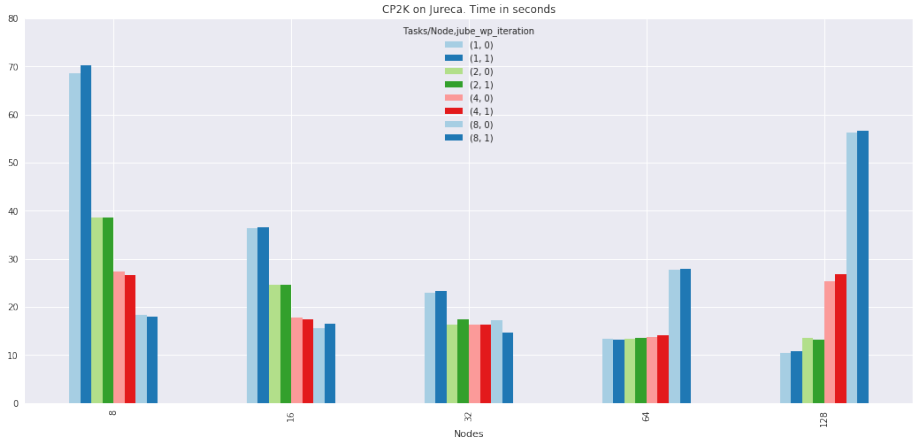

Figure 1: Principles of ice-templating. The colloidal suspension is frozen, the solvent crystals are then sublimated, and the resulting green body sintered.