Vladimir Pesic* (vpesic@math.ucsd.edu) and Ruth Williams (williams@math.ucsd.edu), UCSD Department of Mathematics, 9500 Gilman Drive, La Jolla, CA 92093. On Dynamic Scheduling of a Parallel Server System with Certain Graph Structure. Preliminary report.

Assuming the server-buffer graph associated with a parallel server system has a certain structure, we give sufficient conditions for a least control process to be the optimal solution of the equivalent workload formulation of the approximating Brownian control problem. Under these conditions, we report on some preliminary analysis of a threshold-type policy that we conjecture is asymptotically optimal for the parallel server system. (Received September 21, 2009)