
MARK ADAMS
**Experimental investigation of the asymptotics of
segmental refinement multigrid**

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We introduce the segmental refinement (SR) method of Brandt and Diskin (1994) for reducing communication latency costs within a standard distributed memory Top/Textbook Multigrid Efficiency (TME) cell centered full multigrid solver of the model problem. We discuss memory models appropriate for understanding SR and discuss future multilevel version of SR. We revisit data that suggesting a buffer schedule that provides a TME solver and present new convergence studies, with this buffer schedule with up to over 4 trillion cells, using higher order boundary conditions and prolongation than the original study. We corroborate that this buffer schedule does in fact provide a TME solver. Two additional talks in this session will discuss theoretical analysis of SR and evanescent data SR of Brandt (ca. 1975).