COMPLEXITIES OF BLOCK-SEQUENTIAL UPDATE MODES

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Abstract: Update digraphs are the convenient objects to discuss block-sequential update schedules (ordered partitions of the automata set). We will first see that counting update digraphs is #P-hard in general (with an introduction to counting classes), but can be done in polynomial time on graphs of treewidth 2 (series-parallel). Fixed points are invariant under block-sequential update schedules, but limit-cycles are not. We will see a related problem complete for NP$\wedge$NP, one level above NP in the polynomial hierarchy.