**Some construction of cluttered orderings for the complete bipartite graph**

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The desire to speed up secondary storage systems has lead to the development of *disk arrays* which achieve performance through disk parallelism. We can make a model of disk arrays by corresponding an information disk to a vertex and a check disk to an edge.
Let $h$ and $t$ be two positive integers. For each parameter $h$ and $t$, we define a bipartite graph denoted by $H(h;t) = (U, E)$. Its vertex set $U$ is partitioned into $U = V \cup W$ and consists of the following $2h(t+1)$ vertices: $V := \{v_i | 0 \leq i < h(t+1)\}$, $W := \{w_i | 0 \leq i < h(t+1)\}$. The edge set $E$ is partitioned into $\cup_{0 \leq s < t} E_s$, defined by $E'_s := \{\{v_i, w_j\} | s \cdot h \leq i, j < s \cdot h + h\}$, $E''_s := \{\{v_i, w_{h+j}\} | s \cdot h \leq j \leq i < s \cdot h + h\}$, $E'''_s := \{\{v_{h+i}, w_j\} | s \cdot h \leq i \leq j < s \cdot h + h\}$, $E_s := E'_s \cup E''_s \cup E'''_s$, for $0 \leq s < t$.
Mueller et al. (2005) gave cyclic constructions of $H(1;t)$, $H(2;t)$ and $H(h;1)$. Adachi and Kikuchi (2015) gave one of $H(3;t)$.
In this talk, we give a construction in the case of $H(4;1)$ and investigate $H(4;t)$.

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