1035-05-228 **Zoran Spasojevic*** (zoran@ll.mit.edu), 244 Wood Street, Lexington, MA 02420. *Scheduling Algorithms with Applications to Radar Resource Management.*

Consider a sequence $\{p_1, \cdots, p_m\}$ of positive real numbers, with $i < j \to p_j/p_i \in \mathbb{N}$. Let $\mathcal{B} = \{B_j : j \leq p_m/p_1\}$ be a sequence of one dimensional bins all of the same length p_1, stacked consecutively one after another according to their indexing with no space between the bins. We think of bins as time segments. Let $\mathcal{D} = \{d_{ij} : 1 \leq i \leq m, 1 \leq j \leq n_i\}$ be a collection of tasks/task durations. For each $i \leq m$, subdivide the bins in $\mathcal{B}$ into sets $\mathcal{G}_i = \{G_{ik} : k \leq p_m/p_i\}$ of pairwise disjoint elements, each containing p_i/p_1-many consecutive bins in $\mathcal{B}$. Each task d_{ij} can be packed/scheduled once in any one of the bins in each G_{ik} according to preassigned rules.

We present optimal and sub-optimal bin packing/scheduling algorithms for two different packin/scheduling schemes with direct applications to scheduling radar systems. (Received August 21, 2007)