1014-05-1122 **Particia Ann Carey*** (`zpac7@imail.etsu.edu`), ETSU Mathematics Department, Box 70663, Johnson City, TN 37614, and **Anant P Godbole** (`godbolea@etsu.edu`). *Partial covering arrays and a generalized Erdős-Ko-Rado property.*

The classical Erdős-Ko-Rado theorem states that if $k \leq \lfloor n/2 \rfloor$ then the largest family of pairwise intersecting k-subsets of $[n] = \{0, 1, \ldots, n\}$ is of size $\binom{n-1}{k-1}$. A family of k subsets satisfying this pairwise intersecting property is called an EKR family. We generalize the EKR property and provide asymptotic lower bounds on the size of the largest family $\mathcal{A}$ of k-subsets of $[n]$ that satisfies the following property: For each $A, B, C \in \mathcal{A}$, each of the four sets $A \cap B \cap C$; $A \cap B \cap C^C$; $A \cap B^C \cap C$; $A^C \cap B \cap C$ are non-empty. This generalized EKR (GEKR) property is motivated, generalizations are suggested, and a comparison is made with fixed weight 3-covering arrays. Our techniques are mainly probabilistic. (Received September 27, 2005)