1124-05-274 **Vikram M Kamat*** (vkamat@vcu.edu), **Glenn Hurlbert** and **Eva Czabarka**. *On Chvátal's conjecture and Erdős–Ko–Rado graphs.* Preliminary report.

One of the fundamental results in extremal set theory, the Erdős–Ko–Rado theorem, finds a tight upper bound on the size of an intersecting family of r-subsets of $[n] = \{1, \ldots, n\}$ (when $r \leq n/2$) by proving that it is no bigger than the family of all r-subsets of $[n]$ containing a fixed element. A long-standing conjecture of Chvátal states that in every *downset*, i.e. a family of subsets $\mathcal{F}$ such that if $A \in \mathcal{F}$ and $B \subseteq A$, then $B \in \mathcal{F}$, this "EKR property" holds. We verify Chvátal's conjecture for any downset where every subset contains at most 3 elements.

We also discuss a closely-related graph-theoretic generalization that defines an EKR property for intersecting families of independent sets in a graph. We survey classes of graphs which have this property, and end with some open questions. (Received September 11, 2016)