1126-08-153 **Clifford Bergman*** (cbergman@iastate.edu). *Finding sharply congruence-k-permutable algebras.* Preliminary report.

A variety $\mathcal{V}$ is *congruence-k-permutable* if for any algebra $\mathbf{A} \in \mathcal{V}$ and any two congruences θ and ψ of $\mathbf{A}$, the join of θ and ψ in the congruence lattice is equal to $\theta \circ \psi \circ \theta \circ \cdots$ (with $k-1$ many relative products). The traditional notion of congruence permutability coincides with congruence-2-permutable. We shall call an algebra *sharply k-permutable* if it generates a variety that is congruence-k-permutable but not $(k-1)$-permutable.

For $k > 2$ the task of finding finite sharply k-permutable algebras is surprisingly difficult. Few examples appear in the literature. We shall discuss methods for finding "random" k-permutable algebras and the potential for success. (Received January 10, 2017)