1011-05-222 **Mikhail H. Klin*** (klin@cs.bgu.ac.il), P.O.Box 653, 84105 Beer Sheva, Israel, and **Mikhail Muzychuk** and **Sven Reichard**. *Coherent configuration of type $AK(2)$ on 16 points and its mergings.* Preliminary report.

Recently Muzychuk, following ideas of Wallis and Fon-Der-Flaass, introduced a new wide class of coherent configurations, which provide a large amount of mergings, leading to association schemes. We consider a particular case of such WFDF configurations, which are denoted by $AK(n)$. Any configuration of type $AK(n)$ contains $n+2$ fibers, each of size n^2.
We investigate the unique (up to isomorphism) configuration of type $AK(2)$ and its corresponding coherent algebra W. We construct groups of usual, color, and algebraic automorphisms of W and classify with respect to these groups all homogeneous and all algebraic coherent subalgebras of W. A special attention is payed to twins, that is to pairs of algrebraically isomorphic, but not combinatorially isomorphic association schemes.
In such manner we provide an unified explanation for a number of known and new phenomena related to coherent configurations of order 16. (Received August 28, 2005)