1030-05-307   **Mikhail H. Klin*** (`klin@cs.bgu.ac.il`), Department of Mathematics, Ben-Gurion University of the Negev, 84105 Beer Sheva, Israel, and **Matan Ziv-Av**. *The Robertson-Anstee cage with 40 vertices and related association scheme.* Preliminary report.

We continue investigation of imprimitive rank 5 symmetric association schemes on 40 points of proper class II in a sense of D.G.Higman. Let Γ be regular graph of valency 6 and girth 5 which was discovered by N.Robertson. This graph was considered in various contexts and is known as the unique cage with 40 vertices. The group $G = Aut(\Gamma)$ was characterized by R.Anstee as $Z_4 \times S_5$. Using GAP we noticed that though G indeed has order 480, it is a non-split central extension. The centralizer algebra of G has a non-Schurian merging association scheme with valencies 1,3,6,12,18 which is a coherent closure of Γ. Together with a new scheme with valencies 1,3,6,6,24 and recently described family of 15 schemes coming from known and new Deza graphs we get examples of Higmanian schemes of the above-mentioned kind with all possible valencies. (Received August 06, 2007)