1056-20-130   **Stephen M Gagola III*** (`sgagola@math.arizona.edu`), Department of Mathematics, University of Arizona, 617 N. Santa Rita Ave, Tucson, AZ 85721. *On coverings of the smallest Paige loop.*

Here we use Zorn vector matrices, forming a split octonion algebra, to determine the covering number of the smallest Paige loop. It is known that no finite group has a covering number of seven. We prove that this is not true for Moufang loops showing that the smallest Paige loop has a covering number of seven. We also show that its automorphism group, $G_2(2)$, permutes these coverings transitively. (Received September 10, 2009)