REPRESENTATION AND ISOTOPES OF A NEW CLASS OF LOOPS

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In this paper we study about the right regular representation and the principal isotopes of a new class of loops (which are loops of any even order \( \geq 6 \)). We prove that the number of different representations of loops of order \( 2n \) \((n \geq 3)\) which are right alternative and in which square of each element is identity a equal to different proper edge coloring of the complete graph \( K_{2n} \). Using this we find out all the six different possible representation of such loops of order 6. We give a method of finding the composition table for the principal isotopes from the composition table of the original loop. Properties of principal isotopes of loops of this class are also obtained. Finally we prove that none of the loop in this class is a G-loop.

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