

On Kassel–Reutenauer  $q$ -analog of the sum of divisors and the ring  $F_3[X]/X^2$   
 $F_3[X]$

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Abstract :

A  $q$ -analog  $P_n(q)$  of the sum of divisors of  $n$  was introduced by C. Kassel and C. Reutenauer in a combinatorial setting and by T. Hausel, E. Letellier, F. Rodríguez-Villegas in a Hodge-theoretic setting.

We study the reduction modulo 3 of the polynomial  $P_n(q)$  with respect to the ideal  $(q^2 + q + 1)F_3[q]$ .