On Hochschild cohomology ring and integral cohomology ring for a split metacyclic group

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Abstract. We will determine the ring structure of the Hochschild cohomology $HH^*(\mathbb{Z}G)$ of the integral group ring of a split metacyclic group G of order 8ℓ for arbitrary integer $\ell \geqslant 2$ by giving the precise description of the integral cohomology ring $H^*(G, \mathbb{Z})$.

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