HYPERRINGS $(\mathbb{Z}_n, q)$

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In this paper we define a new algebraic structure called hyper-rings.

This paper was motivated by the paper of De Maria, Francesco; “Hypergroups $(\mathbb{Z}_n.q)$”. We define hyperrings $(\mathbb{Z}_n.q)$ and study them. We prove $\langle \mathbb{Z}_n, 0, \oplus \rangle$ is the only subring in the set $\mathbb{Z}_n \times \mathbb{Z}_n$. Further prove $\langle \mathbb{Z}_n, r, + \rangle$ cannot be even a semigroup under ‘.’. We pose a few problems about hyperrings $(\mathbb{Z}_n.q)$. 