On a class of projections on ∗-rings

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This work is motivated by the study of bicircular projections on some matrix and operator spaces, carried out by Stachó and Zalar. A projection on a complex Banach space is called bicircular if its linear combinations with the complementary projection having coefficients of modulus one are isometries. In this talk we first describe the structure of projections $P : R \to R$, where R is a 2-torsion free semiprime ∗-ring, satisfying the functional identity

$$P(xyx) = P(x)yx - xP(y^*)^*x + xyP(x)$$

for all $x, y \in R$. Then we apply the obtained results to bicircular projections on C*-algebras.