

## Automorphisms of finitary incidence rings

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Let  $P$  be a preordered set,  $R$  a ring,  $\mathcal{C}(P, R)$  a pocategory associated with  $P$  and  $R$  [3],  $FI(P, R)$  a finitary incidence ring of  $\mathcal{C}(P, R)$  [3]. We prove that the group  $\text{Out } FI$  of outer automorphisms of  $FI(P, R)$  is isomorphic to the group  $\text{Out } \mathcal{C}$  of outer automorphisms of  $\mathcal{C}(P, R)$  if  $R$  is indecomposable. In particular, if  $R$  is local, the equivalence classes of  $P$  are finite,  $P = \bigsqcup_{i \in I} P_i$  ( $P_i$  are connected),  $\overline{P} = P/\sim$ , then  $\text{Out } FI \cong (H^1(\overline{P}, C(R)^*) \times \prod_{i \in I} \text{Out } R) \rtimes \text{Out } P$ . As the consequences, Theorem 2 [5], Theorem 5 [1], Theorem 1.2 [4] and Theorem 4 [2] are obtained.

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