

# On the Orbit Relation for the Natural Action of Abelian Automata Groups

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**Abstract**

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## 1 Background

Automata Groups give a way of combinatorially encoding extremely rich group theoretic structure. They take the form of subgroups of the group of automorphisms of Cantor Space

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## 2 The Identifying Function

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## 3 Solving the Orbit Problem

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## 4 Conclusion

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## Acknowledgements

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write this. “we solve this problem on a dense set of cantor space”

Application in DST, GGT, and CS

Define automata and their groups

Give an example computation

Introduce notation  $p^{-1} \cdot \mathcal{G}$  and assert N+S result