# Algebraic approach to the (coarse) shape path connectedness

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### (Talk)

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One of the most interesting invariant in the coarse shape theory is the coarse shape path connectedness. On the other hand the coarse shape groups, which are recently founded, make very important algebraic coarse shape invariant. In this talk we consider isomorphisms that coarse shape paths induce between coarse shape groups (and homotopy pro-groups, as well) at the different base points of topological space. We establish several interesting results for coarse shape path connected spaces such as the independence of n-shape connectedness from the base point. We also exhibit relationships between the (coarse) shape path connectedness and the triviality of low dimensional (coarse) shape groups and homotopy pro-groups.

## References

- N. Koceić Bilan, On exactness of the coarse shape group sequence, Glasnik Mat. Vol. 47 (2012)
- [2] N. Koceić Bilan and N. Uglešić, The coarse shape path connectedness, Glasnik Mat. 46 (66) (2011) 491-505.
- [3] N. Koceić Bilan, The coarse shape groups, Topology Appl. 157 (2010) 894-901.

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