# Covering radius for sets of permutations 

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Given a finite set of points $P$ in a metric space $M$ ，the covering radius of $P$ in $M$ is the smallest number $r$ such that balls of radius $r$ centered on all the points in $P$ cover the entire space．In this talk，we give a survey on this problem when $P$ is a set of permutations，and $M$ is the symmetric group equipped with some metric $d$ ．In particular，we discuss known results when $d$ is the Hamming distance and our recent progress when $d$ is the infinity norm function．

