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On weak structural sufficiency. (English) Zbl 1452.62150

Summary: In this paper, we consider sufficiency of the pair \((t, \pi)\) where \(\pi\) is a canonical projection which is maximal invariant and \(t\) is a maximum likelihood estimator which is weakly equivariant. We define weak structural sufficiency for \((t, \pi)\) and then we will consider the conditions under which \((t, \pi)\) is weakly structurally sufficient and investigate its properties. For the case in which the group on the parameter space is transitive, and the stabilizer group is characteristic and also for trivial-transitive spaces obtain new results on weak structural sufficiency.

MSC:

62B05 Sufficient statistics and fields
62F10 Point estimation
62R40 Topological data analysis
54H11 Topological groups (topological aspects)

Keywords:
weak structural sufficiency; topological group; characteristic subgroup; invariance; weak equivariance; maximum likelihood estimator; trivial-transitive space

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References:


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