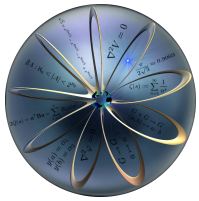

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topological G-space

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0.1 Essential data

Let us recall the definition of a *topological group*; this is a group $(G, ., e)$ together with a topology on G such that $(x, y) \mapsto xy^{-1}$ is continuous, i.e., from $G \times G$ into G. Note also that $G \times G$ is regarded as a topological space defined by the product topology.

Definition 0.1. Consider G to be a topological group with the above notations, and also let X be a topological space, such that an action a of G on X is continuous if $a : G \times X \to X$ is continuous; with these conditions, X is defined to be a *topological G-space*.

References

[1] Howard Becker, Alexander S. Kechris. 1996. *The Descriptive Set Theory of Polish Group Actions* Cambridge University Press: Cambridge, UK, p.14.