Beshimov, R. B.; **Mamadaliev, N. K.**
On functional tightness and local density of the space of probability measures. (English)
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Local density and local weak density of topological spaces were introduced in [*R. B. Beshimov* et al., Int. J. Geom. 4, No. 1, 42–49 (2015; Zbl 1350.54008)], where it was shown that

Theorem. For every infinite T_1-space X, we have the following equalities.

$$Id(X) = Id(exp_n(X))$$
$$Iwd(X) = Iwd(exp_n(X)).$$

The concept of functional tightness of a topological space was introduced in [*A. V. Arkhangel'skij*, Commentat. Math. Univ. Carol. 24, 105–120 (1983; Zbl 0528.54006)], while the action of closed and -quotient maps on functional tightness was investigated in [*O. Okunev* and *A. Ramírez Páramo*, Topology Appl. 228, 236–242 (2017; Zbl 1375.54008)]. It was established in [*M. Krupski*, Topology Appl. 229, 141–147 (2017; Zbl 1393.54003)] that

Theorem. For any infinite compact space X, we have

$$t_0(X) = t_0(X^c).$$

This paper aims to study the behavior of the functional tightness and the local density of topological spaces under the influence of the functor of probability measures of finite support. It is proved that the functor Γ_n preserves the functional tightness and the local density of compact spaces. Furthermore, a mapping from the special subspace $P'(X)$ of probability measure into the space of maximal linked systems is constructed, being shown to be continuous.

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MSC:

18A05	Definitions and generalizations in theory of categories
18A22	Special properties of functors (faithful, full, etc.)
46E27	Spaces of measures
46J10	Banach algebras of continuous functions, function algebras
54C35	Function spaces in general topology

Keywords:

linear functional; functional tightness; local density; normal functor; superextension

Full Text: DOI

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