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Title: Generators of topological rings

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H. Fujita and D. Shakhmatov, in [FS], have introduced the concept of a finitely generated – modulo open sets – topological group. In this paper we transfer their results to topological rings which are finitely generated modulo open sets. Moreover, we are introducing the concept of the free compact associative ring $c\mathbb{F}_p\langle X\rangle$ of prime characteristic p over a set X. For a countable set X, the free ring $c\mathbb{F}_p\langle X\rangle$ is universal in the following two means: (i) that it contains an isomorphic copy of every compact second countable associative ring of characteristic p; (ii) every compact second countable associative ring with 1 of characteristic p is a continuous homomorphic image of $c\mathbb{F}_p\langle X\rangle$. We introduce also the concept of a free topologically nilpotent compact ring of prime characteristic over a set. We give a realization of the free compact topologically nilpotent ring with a countable set of generators and prove that it is a domain. It is obtained that every compact second countable topologically nilpotent compact ring is a continuous homomorphic image of a compact domain. There are compact rings of prime characteristic which are not continuous images of compact reduced rings.

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