

t9_fin_topo (TMUP- Scm9VYxEKsXmQEbjvCkzrt7v52RCSsE)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k10_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k10_fin_topo \\
 & X0 X1 = ReplSep (toset (\lambda X2 : \iota. m1_subset_1 X2 (u1_struct_0 \\
 & X0)))) (\lambda X2 : \iota. (X2 \in X1) \wedge (r1_xboole_0 (k7_subset_1 (u1_struct_0 \\
 & X0) (k1_fin_topo X0 X2) (k6_domain_1 (u1_struct_0 X0) X2)) X1)) \\
 & (\lambda X2 : \iota. X2))) \tag{1}
 \end{aligned}$$

Theorem 1

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\
 & (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X1 \in k10_fin_topo X0 X2) \Leftrightarrow ((\\
 & X1 \in X2) \wedge (r1_xboole_0 (k7_subset_1 (u1_struct_0 X0) (k1_fin_topo \\
 & X0 X1) (k6_domain_1 (u1_struct_0 X0) X1)) X2))))))
 \end{aligned}$$