

t5_incproj

(TMSR5dkqXY1xqkC1xgvBk66bVkabRZKmm)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_collsp : \iota \Rightarrow o$ be given. Let $v3_collsp : \iota \Rightarrow o$ be given. Let $v4_collsp : \iota \Rightarrow o$ be given. Let $l1_collsp : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_incsp_1 : \iota \Rightarrow \iota$ be given. Let $k3_incproj : \iota \Rightarrow \iota$ be given. Let $u2_incsp_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_incproj : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_incproj : \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_incsp_1 : \iota \Rightarrow o$ be given. Let $l1_incsp_1 : \iota \Rightarrow o$ be given. Let $k2_incproj : \iota \Rightarrow \iota$ be given. Let $u3_incsp_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1. (m1_incproj X1 X0) \Leftrightarrow (m1_subset_1 X1 (k1_incproj X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X1)))) \Rightarrow (k1_domain_1 X0 X1 X2 X3 = k4_tarski X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. (g1_incsp_1 X0 X1 X2 = g1_incsp_1 X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (v1_incsp_1 (k3_incproj X0)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (\neg v1_xboole_0 (k1_incproj X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_incsp_1 X0) \Rightarrow (\neg v1_xboole_0 (u2_incsp_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_incsp_1 X0) \Rightarrow (\neg v1_xboole_0 (u1_incsp_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_collsp X0) \Rightarrow (l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (l1_incsp_1 (k3_incproj X0)) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (m1_subset_1 (k2_incproj X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k1_incproj X0)))) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (k3_incproj X0 = g1_incsp_1 (u1_struct_0 X0) (k1_incproj X0) (k2_incproj X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k1_incproj X0)))) \Rightarrow \\ & ((X1 = k2_incproj X0) \Leftrightarrow (\forall X2.\forall X3.(k4_tarski X2 X3 \in \\ & X1) \Leftrightarrow ((X2 \in u1_struct_0 X0) \wedge ((X3 \in k1_incproj X0) \wedge (\exists X4.(\\ & X3 = X4) \wedge (X2 \in X4))))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow ((r1_incsp_1 \\ X0 X1 X2) \Leftrightarrow (k1_domain_1 (u1_incsp_1 X0) (u2_incsp_1 X0) X1 X2 \in u3_incsp_1 \\ X0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\ ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (k1_incproj X0 = ReplSep (\\ toset (\lambda X1 : \iota.m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \\ (\lambda X1 : \iota.m1_incproj X1 X0) (\lambda X1 : \iota.X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(l1_incsp_1 X0) \Rightarrow ((v1_incsp_1 X0) \Rightarrow (X0 = g1_incsp_1 \\ (u1_incsp_1 X0) (u2_incsp_1 X0) (u3_incsp_1 X0))) \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\ ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_incsp_1 (k3_incproj X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u2_incsp_1 (k3_incproj X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (\forall X4.(m1_incproj X4 X0) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow ((r1_incsp_1 \\ (k3_incproj X0) X1 X2) \Leftrightarrow (X3 \in X4))))))) \end{aligned}$$