

t56_hermitan (TMGREp- DAqc11aWPJJYvraDqERiRh5bNwYvA)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_complfld : \iota$ be given. Let $v9_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_hermitan : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_hermitan : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k13_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hermitan : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_hermitan : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_bilinear : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 X0 k1_complfld)) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge (l1_vectsp_1 X1 k1_complfld)) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\
& X1)) (u1_struct_0 k1_complfld)))))) \Rightarrow ((k10_bilinear k1_complfld \\
& X0 X1 X2 = k10_bilinear k1_complfld X0 X1 (k3_hermitan X0 X1 X2)) \wedge \\
& (k11_bilinear k1_complfld X0 X1 X2 = k11_bilinear k1_complfld X0 \\
& X1 (k3_hermitan X0 X1 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v8_vectsp_1 X0 k1_complfld) \wedge \\
& ((v9_vectsp_1 X0 k1_complfld) \wedge ((v10_vectsp_1 X0 k1_complfld) \wedge \\
& ((v11_vectsp_1 X0 k1_complfld) \wedge (l1_vectsp_1 X0 k1_complfld)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)) \wedge ((v2_bilinear \\
& X1 k1_complfld X0 X0) \wedge ((v4_bilinear X1 k1_complfld X0 X0) \wedge ((v3_hermitan \\
& X1 X0) \wedge ((v5_hermitan X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 \\
& k1_complfld)))))))))) \Rightarrow (k12_bilinear k1_complfld X0 X1 = k11_bilinear \\
& k1_complfld X0 X0 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v8_vectsp_1 X0 k1_complfld) \wedge \\
& ((v9_vectsp_1 X0 k1_complfld) \wedge ((v10_vectsp_1 X0 k1_complfld) \wedge \\
& ((v11_vectsp_1 X0 k1_complfld) \wedge (l1_vectsp_1 X0 k1_complfld)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)) \wedge ((v2_bilinear \\
& X1 k1_complfld X0 X0) \wedge ((v4_bilinear X1 k1_complfld X0 X0) \wedge ((v3_hermitan \\
& X1 X0) \wedge ((v5_hermitan X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 \\
& k1_complfld)))))))))) \Rightarrow (k12_bilinear k1_complfld X0 X1 = k10_bilinear \\
& k1_complfld X0 X0 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& (\neg v6_struct_0 k1_complfld) \wedge ((v13_algstr_0 k1_complfld) \wedge ((\\
& v33_algstr_0 k1_complfld) \wedge ((v36_algstr_0 k1_complfld) \wedge ((v3_group_1 \\
& k1_complfld) \wedge ((v5_group_1 k1_complfld) \wedge ((v3_vectsp_1 k1_complfld) \wedge \\
& ((v5_vectsp_1 k1_complfld) \wedge ((v6_vectsp_1 k1_complfld) \wedge ((v2_rlvect_1 \\
& k1_complfld) \wedge ((v3_rlvect_1 k1_complfld) \wedge (v4_rlvect_1 k1_complfld))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$(v36_algstr_0 k1_complfld) \wedge (v4_vectsp_1 k1_complfld) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 \\
& X0 k1_complfld)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_vectsp_1 X1 k1_complfld)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 (u1_struct_0 X0) \\
& (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge ((v2_hermitan \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 k1_complfld)))))) \Rightarrow \\
& ((v1_funct_1 (k3_hermitan X0 X1 X2)) \wedge ((v1_funct_2 (k3_hermitan \\
& X0 X1 X2) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 \\
& k1_complfld)) \wedge (v3_bilinear (k3_hermitan X0 X1 X2) k1_complfld \\
& X0 X1)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 \\
& X0 k1_complfld)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_vectsp_1 X1 k1_complfld)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 (u1_struct_0 X0) \\
& (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge ((v1_bilinear \\
& X2 k1_complfld X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 \\
& k1_complfld)))))) \Rightarrow ((v1_funct_1 (k3_hermitan X0 X1 X2)) \wedge (\\
& (v1_funct_2 (k3_hermitan X0 X1 X2) (k2_zfmisc_1 (u1_struct_0 X0) \\
& (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge (v1_bilinear (\\
& k3_hermitan X0 X1 X2) k1_complfld X0 X1)))
\end{aligned} \tag{7}$$

Assume the following.

$$(\neg v2_struct_0 k1_complfld) \wedge (v36_algstr_0 k1_complfld) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 \\
& X0 k1_complfld)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_vectsp_1 X1 k1_complfld)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 (u1_struct_0 X0) \\
& (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge (m1_subset_1 X2 \\
& (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\
& X1)) (u1_struct_0 k1_complfld)))))) \Rightarrow ((v1_funct_1 (k3_hermitan \\
& X0 X1 X2)) \wedge ((v1_funct_2 (k3_hermitan X0 X1 X2) (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) (u1_struct_0 k1_complfld)) \wedge (m1_subset_1 \\
& (k3_hermitan X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 k1_complfld))))))
\end{aligned} \tag{9}$$

Assume the following.

$$(v36_algstr_0 k1_complfld) \wedge (l6_algstr_0 k1_complfld) \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\
& X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge (l6_algstr_0 X0)))))))) \wedge (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\
& X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge \\
& ((v11_vectsp_1 X1 X0) \wedge (l1_vectsp_1 X1 X0)))))))) \wedge (((\neg v2_struct_0 \\
& X2) \wedge (l1_vectsp_1 X2 X0)) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X2)) (u1_struct_0 X0)) \wedge ((v2_bilinear \\
& X3 X0 X1 X2) \wedge ((v4_bilinear X3 X0 X1 X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)) \\
& (u1_struct_0 X0)))))))))) \Rightarrow ((\neg v2_struct_0 (k13_bilinear X0 \\
& X1 X2 X3)) \wedge ((v7_vectsp_1 (k13_bilinear X0 X1 X2 X3) X0) \wedge (m1_vectsp_4 \\
& (k13_bilinear X0 X1 X2 X3) X0 X1)))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1. (((\neg v2_struct_0 X1) \wedge (l1_vectsp_1 X1 X0)) \Rightarrow (\forall X2. \\
& (((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge (\\
& v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v8_vectsp_1 X2 X0) \wedge ((v9_vectsp_1 \\
& X2 X0) \wedge ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 X2 X0) \wedge (l1_vectsp_1 \\
& X2 X0)))))))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 \\
& (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)) (u1_struct_0 \\
& X0)) \wedge ((v1_bilinear X3 X0 X1 X2) \wedge ((v3_bilinear X3 X0 X1 X2) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& X2)) (u1_struct_0 X0)))))))))) \Rightarrow (\forall X4. (((\neg v2_struct_0 X4) \wedge \\
& ((v7_vectsp_1 X4 X0) \wedge (m1_vectsp_4 X4 X0 X2))) \Rightarrow ((X4 = k14_bilinear \\
& X0 X1 X2 X3) \Leftrightarrow (u1_struct_0 X4 = k11_bilinear X0 X1 X2 X3))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge (l1_vectsp_1 X2 X0)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\
& X3 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)) (u1_struct_0 \\
& X0)) \wedge ((v2_bilinear X3 X0 X1 X2) \wedge ((v4_bilinear X3 X0 X1 X2) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& X2)) (u1_struct_0 X0)))))))))) \Rightarrow (\forall X4.((\neg v2_struct_0 X4) \wedge \\
& ((v7_vectsp_1 X4 X0) \wedge (m1_vectsp_4 X4 X0 X1))) \Rightarrow ((X4 = k13_bilinear \\
& X0 X1 X2 X3) \Leftrightarrow (u1_struct_0 X4 = k10_bilinear X0 X1 X2 X3))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 X0 k1_complfld)) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)))) \Rightarrow \\
& (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)) \wedge ((v4_bilinear \\
& X1 k1_complfld X0 X0) \wedge (v3_hermitan X1 X0)))) \Rightarrow ((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\
& (u1_struct_0 k1_complfld)) \wedge (v2_hermitan X1 X0 X0))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_vectsp_1 X0 k1_complfld)) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)))) \Rightarrow \\
& (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 \\
& X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)) \wedge ((v2_bilinear \\
& X1 k1_complfld X0 X0) \wedge (v3_hermitan X1 X0)))) \Rightarrow ((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\
& (u1_struct_0 k1_complfld)) \wedge (v1_bilinear X1 k1_complfld X0 X0))))))
\end{aligned} \tag{15}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v8_vectsp_1 X0 k1_complfld) \wedge \\ & ((v9_vectsp_1 X0 k1_complfld) \wedge ((v10_vectsp_1 X0 k1_complfld) \wedge \\ & ((v11_vectsp_1 X0 k1_complfld) \wedge (l1_vectsp_1 X0 k1_complfld)))))))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) (u1_struct_0 k1_complfld)) \wedge ((v2_bilinear \\ & X1 k1_complfld X0 X0) \wedge ((v4_bilinear X1 k1_complfld X0 X0) \wedge ((v3_hermitan \\ & X1 X0) \wedge ((v5_hermitan X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 \\ & k1_complfld)))))))))) \Rightarrow (k13_bilinear k1_complfld X0 X0 X1 = k14_bilinear \\ & k1_complfld X0 X0 (k3_hermitan X0 X0 X1))) \end{aligned}$$