

$$h \in S. \Rightarrow \mathcal{L}'(L) \cap L \neq \emptyset \Rightarrow \mathcal{L}'(L) \in B_L.$$

If  $L_0 \notin B_{L_0}$ ,  $\exists$  open set  $U \subset A$  s.t.  $U \supset B_{L_0}$  and  $\mathcal{L}'^{-1}(U) \not\supset L_0$ , furthermore, for the map  $\phi: L \mapsto B_L$ ,  $K = \{L \mid \phi(L) \subset U\}$  is open in  $A$ .  $\Rightarrow K \ni L_0$  and  $\mathcal{L}'^{-1}(K) \ni L \Rightarrow$  Contradiction.

Now, we saw in Section 6 of Chapter 2 that the theta-divisor of a principally polarized Abelian variety can not be carried into itself by a translation other than the identity.

$\Gamma_{L \rightarrow M}$ : a principally polarized Abelian variety  $\Rightarrow$  By P321,  $h^0(M, \mathcal{O}(L)) = 1 \Rightarrow$  By P317,  $L$  is fixed under the identity only.

Thus we may define a map

$$\kappa: A \longrightarrow A$$

by setting, for each  $L$ ,

$$B_L = B_{L_0} + \kappa(L);$$

our first problem is to identify  $\kappa$ .

$\Gamma [B_L] \simeq [B_{L_0}]$  positive  
 $\Rightarrow$  By P317,  $\exists$  a translation of  $A$  uniquely det-  
line bundles on  $A$ .