

$\text{Pic}^0(A) =$ Set of holomorphic line bundles with Chern class zero.

$$C_1([B_L + \lambda] \cup [B_{L'} - \lambda]) = C_1([B_L + \lambda]) + C_1([B_{L'} - \lambda]) \\ = C_1([B_L]) + C_1([B_{L'}]) \Rightarrow \text{The map is well-defined.}$$

$$B_L + \lambda = B_{L_0} - L + \lambda, \quad B_{L'} - \lambda = B_{L_0} - L' - \lambda$$

$$\Rightarrow B_L + (L - L' - \lambda) = B_{L_0} - L + L - L' - \lambda = B_{L_0} - L' - \lambda$$

$$B_{L'} - (L - L' - \lambda) = B_{L_0} - L' - L + L' + \lambda = B_{L_0} - L + \lambda$$

\Rightarrow The map $A \xrightarrow{\phi} \hat{A}$ sends λ and λ' into the same point. If ϕ is not constant, by P3/6 ~ P3/7 (φ_{B_L} is complex linear, $\Rightarrow \varphi_{B_L} + \varphi_{B_{L'}}$ is linear) since $\phi = \varphi_{B_L} + \varphi_{B_{L'}} \circ (-\text{id})$ is linear, $\phi(A)$ is an one-dimensional variety of \hat{A} . Otherwise, $\phi(A) = \hat{A} \Rightarrow \phi$ is isomorphic, which is impossible since $\phi(\lambda) = \phi(\lambda') = \phi(L - L' - \lambda) \Rightarrow$ Thus, if $\phi(A)$ is of dim 1, then, by the argument above, we have a contradiction (P7 & 3, $\ker \phi + \ker \phi = A$.) $\Rightarrow \phi$ is constant $\Rightarrow \phi = 0 \Rightarrow$ This implies that, for all λ , $[B_L \cup B_{L'}] = [(B_L + \lambda) \cup (B_{L'} - \lambda)]$, i.e., $B_L \cup B_{L'}$ and $(B_L + \lambda) \cup (B_{L'} - \lambda)$ are linearly equivalent.

\Rightarrow

Thus we can write

$$\begin{aligned} j^*h &= B_L \cup B_{L'}(L) \\ &= (B_{L_0} - L) \cup (B_{L_0} + L) \\ &= 2B_{L_0} \end{aligned}$$