

$(C, dP^0)_{TX,u}$ の計算

$A = \sum m_a C_a$

$P(\tilde{A}) = \sum m_a P(\tilde{C}_a)$ $X_{\mathbb{P}^0} \otimes$ a cycle codim u

補題. $(A, dP^0)_{TX,u} = (P(\tilde{A}), X_L^0)_{X_{\mathbb{P}^0}, u}$

$A = C_a = C \in \mathbb{Z}^{\dots}$

$(C, dP^0)_{TX,u} = (P(C), dP^0)_{P(X),u} = (P(\tilde{C}), \overline{dP^0}_{X_L^0})_{X_{\mathbb{P}^0}, u}$

$$\begin{array}{ccc} X_L^0 & \rightarrow & X_{\mathbb{P}^0} \\ \downarrow P^0 & & \downarrow \\ L & \rightarrow & \mathbb{P}^L \end{array} \quad \begin{array}{ccc} P-A_L & \rightarrow & Q \\ \downarrow \tilde{P}^0 & & \downarrow \\ L & \rightarrow & \mathbb{P}^L \end{array}$$

univ. sublin bundle

$\mathbb{P}_L^0 \times_{\mathbb{P}^L} T^*L \rightarrow T^*\mathbb{P}_L^0 = \mathbb{P}_L^0 \times_{\mathbb{P}^L} T^*(\quad) \rightarrow T^*\mathbb{P}_L^0$

$0 \rightarrow \mathbb{P}_L^0 \times_{\mathbb{P}^L} T^*(\mathbb{P} \times \mathbb{P}^L) \rightarrow (\mathbb{P}_L^0 \times_{\mathbb{P}^L} T^*\mathbb{P}) \oplus (\mathbb{P}_L^0 \times_{\mathbb{P}^L} T^*L) \rightarrow T^*\mathbb{P}_L^0 \rightarrow 0$

exact

係数 m_a の求め方

$$\begin{array}{ccc} \mathbb{P}^L & X_{\mathbb{P}^0} & \rightarrow \mathbb{P}^L \\ \cup & \cup & \\ \mathbb{P}(\tilde{C}_a) & \rightarrow & D_a \end{array}$$

gen. radical.

$a \neq b \Rightarrow D_a \neq D_b$

$(L, D_a)_{\text{trans. versal}}$

$\Rightarrow (P(\tilde{C}_a), X_L^0)_u = [\xi_a, \eta_a]_{\text{insep}}$

$A = \sum m_a C_a \quad (P(A), X_L^0)_u = m_a \cdot [\xi_a, \eta_a]_{\text{insep}}$

$= -\text{dim tot } \varphi_u(\mathbb{Z}, dP^0)$

$m_a = - \frac{\text{dim tot.}}{[\xi_a, \eta_a]_{\text{insep}}}$

Can one do this?

universal family of lines in \mathbb{P}^v

$$G = Gr(1, \mathbb{P}^v) = \{\text{lines in } \mathbb{P}^v\} = \{\text{planes in } E\} = Gr(2, E)$$

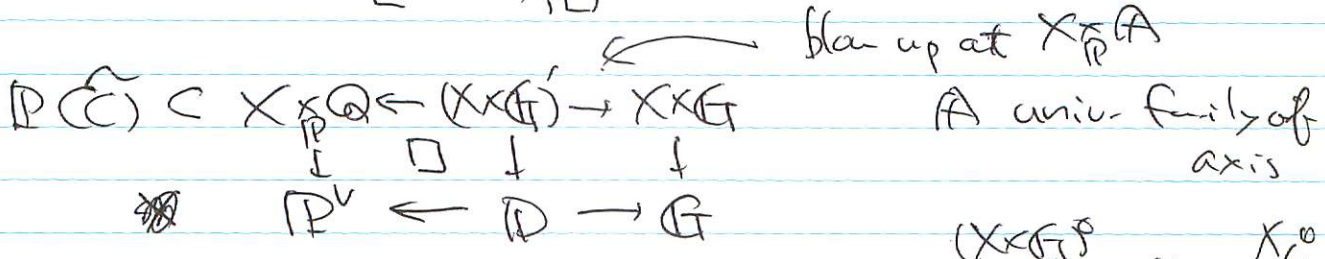
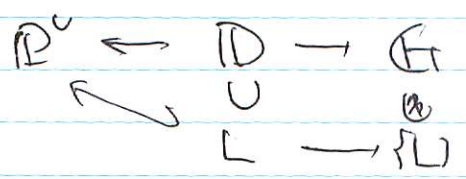
$$\mathbb{P}^v = Gr(0, \mathbb{P}^v) = \{\text{points in } \mathbb{P}^v\} = \{\text{lines in } E\} = \mathbb{P}(E)$$

$$= \{\text{hyperplanes in } \mathbb{P}^v\}$$

$$D = \{\text{univ. lines in } \mathbb{P}^v\}$$

$$= \{(H, L) \in \mathbb{P}^v \times G \mid H \in L\}$$

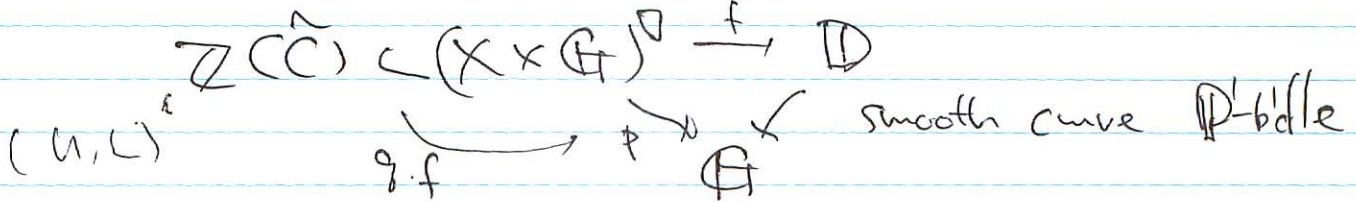
$$= Fr(1, 2, E)$$



$$(X \times G)^\circ = X \times G - X \times_{\mathbb{P}} A$$

$$(X \times G)^\circ \subset (X \times G)^\circ \quad \mathbb{P}(\hat{C}) \subset \mathbb{P}(\hat{C}) \subset \mathbb{P}(\hat{C})$$

$\exists G \in g, f \in \mathbb{P}^v$ 最大な \mathbb{P}^v



$P^+ \exists$ $p: (X \times G)^\circ \rightarrow G$ loc acyclic
 $r: (X \times G)^\circ \rightarrow D$ $\mathbb{P}(\hat{C}) \cap \mathbb{A}^1 \mathbb{Z}$ loc. acyclic

ditto $\varphi_u(\exists, \mathbb{P}^v)$ is $\mathbb{P}(\hat{C}) \in \mathbb{P}^v$ 最大な \mathbb{P}^v
 \mathbb{P}^v Constructible + $G \in \mathbb{P}^v$
 \mathbb{P}^v $\mathbb{P}(\hat{C})$ or dense open \mathbb{Z} const \rightarrow ma