

\Rightarrow This is non-sense.

f is not well-defined on B .

But $f = \frac{S_1}{S_2}$ is well-defined on M . which is meromorphic function.

$$S_1(a_0) = 0$$

$$S_2(a_0) = 0$$

Suppose $a_0 = 0$.

$$S_1 = g_1(w) h(w)$$

$$S_2 = g_2(w) h'(w, z)$$

$$\frac{w^d + a_1(z)w^{d-1} + \dots + a_d(z)}{w^r + a'_1(z)w^{r-1} + \dots + a'_r(z)} = \frac{g_1(w)}{g_2(w)}$$

Guess. or ?

$V-B$ is an analytic subvariety of M (See 282).

$\Rightarrow V-B$ is closed in $M \Rightarrow V-B$ compact.

$\Rightarrow V-B = \bigcup C_\alpha$. where C_α is open.

$\Rightarrow V-B$ must be covered by a finite # of C_α 's.

\Rightarrow Since each $C_\alpha \subset D_\lambda$, for some λ , D_λ ,
 V meets only a finite # of D_λ 's.

Suppose $S_1, S_2, S_3 \in H^0(M, \mathcal{O}(L))$ are linearly independent. & $\dim H^0(M, \mathcal{O}(L)) = 3$.

Let $D_i = (S_i)$, $B = D_1 \cap D_2 \cap D_3$.

$p \in M-B$. & suppose $S_1(p) = S_2(p) = 0$.

$\Rightarrow S_3(p) \neq 0$. since $p \notin B$.

Define a map from $M-B$ to \mathbb{P}^2 as follows:

$$M-B \xrightarrow{f} \mathbb{P}^2$$

$$x \longmapsto$$

$$[(S_{1,\alpha}(x), S_{2,\alpha}(x), S_{3,\alpha}(x))]$$