$$\Rightarrow \chi(\mathcal{O}_M) = \sum_{v(p)=0} \frac{1}{\det A_p} (-1)^n \frac{\det A_p}{\det(I-e^{-tA_p})} \nearrow \text{my L.F.F.}$$

$$= \sum_{v(p)=0} \frac{1}{\det A_p} (-1)^n \; (-1)^n \; t^{-n} \sum_i (-1)^i \, Td_i(p^1,\cdots p^n)\, t^i$$

$$= (-1)^n \, t^{-n} \sum_i \left\{ \sum_{v(p)=0} (-1)^i \, Td_i(p^1 \cdots p^n) \big/ \det A_p \right\} t^i$$

$$\Rightarrow \quad \chi(\mathcal{O}_M) = (-1)^n \, Td_n(p^1 \cdots p^n)$$
$$= (-1)^n \, Td_n(C_1, \cdots C_n)$$

Again different from the book.

$$\chi(\mathcal{O}_M) = \sum_{v(p)=0} \frac{1}{\det A_p} \frac{\det A_p}{\det(I-e^{tA_p})}$$

$$= \sum_{v(p)=0} \frac{1}{\det A_p} \, t^{-n} \sum_i Td_i(p^1,\cdots p^n)\, t^i$$

$$= t^{-n} \sum_i \left\{ \sum_{v(p)=0} Td_i(p^1,\cdots p^n) \big/ \det A_p \right\} t^i$$

$$\Rightarrow \quad \chi(\mathcal{O}_M) = \quad Td_n(C_1, \cdots C_n).$$ the same as the book.

We had better define the Todd polynomials by

$$\frac{\det A}{\det(I-e^{-tA})} = t^{-n} \left\{ \sum_i Td_i(P^1(A), \cdots P^i(A))\, t^i \right\}$$

as on P152 Wells.

For a curve, the formula reads

$$\chi(\mathcal{O}_M) = \tfrac{1}{2} c_1(M),$$