

$$\gamma \in \mathfrak{H} \setminus \bar{\mathbb{C}} \text{ mero} : \bigwedge_z \deg_z \gamma \in \mathbb{Z}$$

$$\text{cpt } K \subset \mathfrak{H} : \partial K \text{ stw glatt} : \bigwedge_w \deg_w \gamma = 0$$

$$\int_{dw/2\pi i}^{\partial K} \frac{w\gamma}{w\bar{\gamma}} = \sum_{z \in \check{K}} \deg_z \gamma = \deg_K \gamma \in \mathbb{Z}$$

$$1 \in \mathfrak{H} \setminus \bar{\mathbb{C}} \Rightarrow \int_{dw/2\pi i}^{\partial K} w \gamma \frac{w\gamma}{w\bar{\gamma}} = \sum_{z \in \check{K}} z \deg_z \gamma$$

$$\check{\gamma} = \frac{z \in \mathfrak{H}}{\deg_z \gamma < 0} \underset{\text{dis}}{\subset} \mathfrak{H}$$

$$\mathfrak{H} \setminus \check{\gamma} \underset{\text{dis}}{\supset} \check{\gamma} = \frac{z \in \mathfrak{H} \setminus \check{\gamma}}{z \gamma = 0} = \frac{z \in \mathfrak{H} \setminus \check{\gamma}}{\deg_z \gamma > 0}$$

$$\mathfrak{H} \underset{\text{dis}}{\supset} \check{\gamma}^{\neq} = \check{\gamma} \cup \check{\gamma} = \frac{z \in \mathfrak{H}}{\deg_z \gamma \neq 0}$$

$$\partial K \subset \mathfrak{H} \setminus \check{\gamma}^{\neq} : 1\bar{\gamma}/\gamma \in \mathfrak{H} \setminus \check{\gamma}^{\neq} \setminus \bar{\mathbb{C}}$$

$$z \in \check{\gamma}^{\neq} \Rightarrow \text{Res}_z 1\bar{\gamma}/\gamma = z \text{Res}_z \bar{\gamma}/\gamma = z \deg_z \gamma$$

$$\check{K} \cap \check{\gamma}^{\neq} = K \cap \check{\gamma}^{\neq} \text{ fin} \Rightarrow \deg_K \gamma \in \mathbb{Z}$$