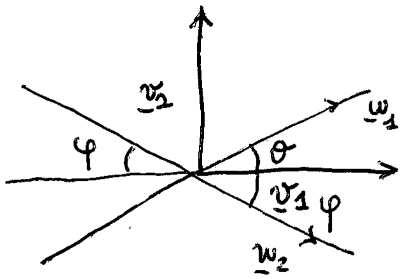
ES Sia p punto iperbolico le direzioni principali <u>bisecano</u> le direzioni asintotiche.

p, $\quad k_1, k_2$ curv. principali (discordi)

$\underline{v}_1, \underline{v}_2$ direz. principali $\qquad \langle v_1, v_2 \rangle = 0 \qquad \langle v_1, v_1 \rangle = \langle v_2, v_2 \rangle = 1$

$\exists$ 2 direz asintotiche $\underline{w}_1, \underline{w}_2$



Vogliamo provare che $\theta = \varphi$ (a meno del segno)

$$\underline{w}_1 = \underline{v}_1 \cos\theta + \underline{v}_2 \operatorname{sen}\theta$$

$$\underline{w}_2 = \underline{v}_1 \cos\varphi - \underline{v}_2 \operatorname{sen}\varphi$$

$$0 = K_n(\underline{w}_1) = \langle S(\underline{w}_1), \underline{w}_1 \rangle = k_1 \cos^2\theta + k_2 \operatorname{sen}^2\theta$$

$$0 = K_n(\underline{w}_2) = \langle S(\underline{w}_2), \underline{w}_2 \rangle = k_1 \cos^2\varphi + k_2 \operatorname{sen}^2\varphi$$

$\Rightarrow$ visto che k_1, k_2 non sono nulli

$$-\frac{k_1}{k_2} = \frac{\operatorname{sen}^2\theta}{\cos^2\theta} = \frac{\operatorname{sen}^2\varphi}{\cos^2\varphi} \Rightarrow \begin{array}{l} \operatorname{tg}^2\theta = \operatorname{tg}^2\varphi \\ \operatorname{tg}\theta = \pm \operatorname{tg}\varphi \end{array} \qquad \boxed{\theta = \pm\varphi}$$