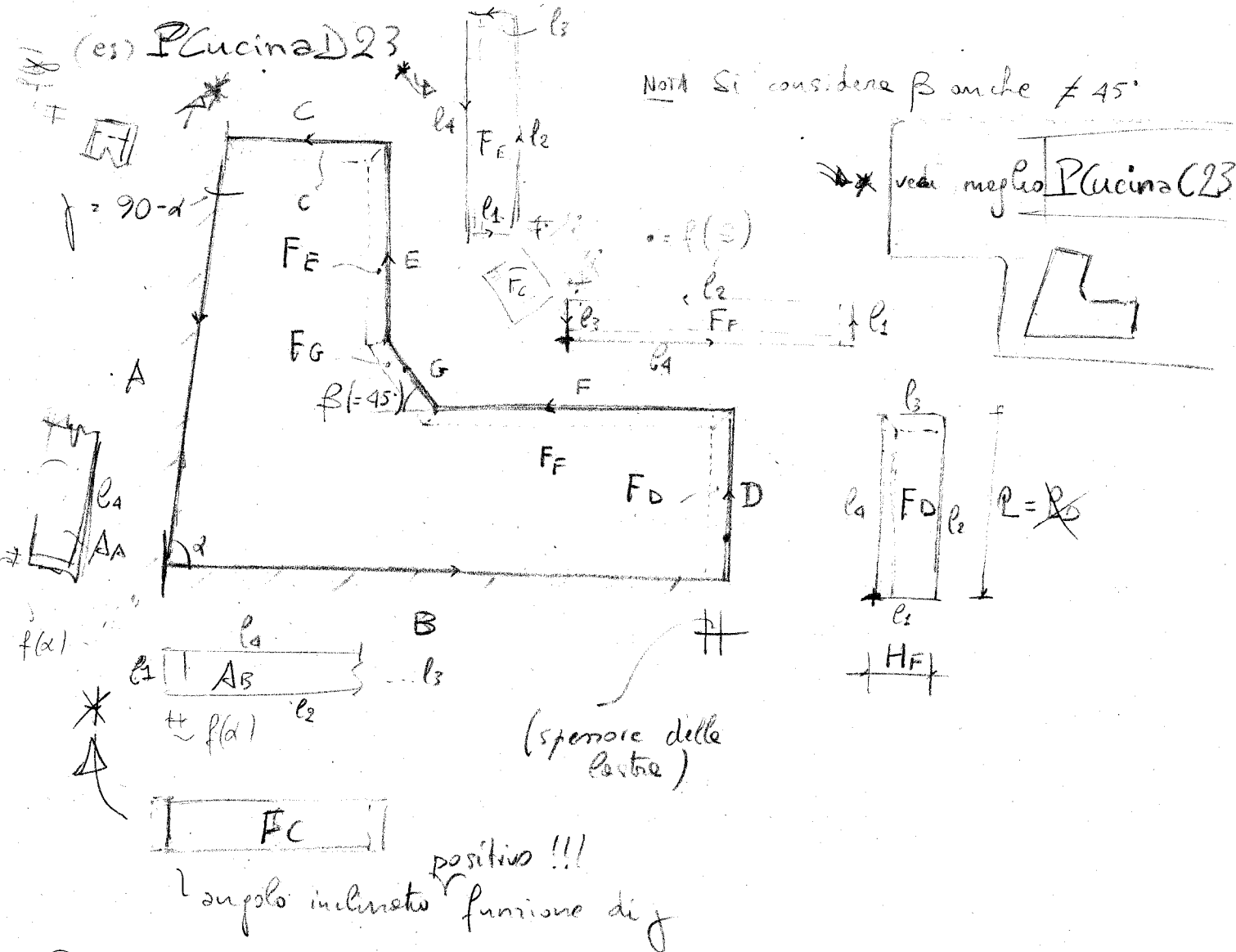


FRONTALINO / ALZATINE

(es) Plucina D23

NOTA Si considera β anche $\neq 45^\circ$

vedi meglio Plucina C23



Ip. \neq lato della figura (es. Plucina exx)
alzatina e frontolino sono in alternativa,
per cui verranno disegnati nelle
stesse figure

(solo frontolini)

*) es per β : oltre a info per il due tepla inclinato
dove esserci anche info riferim' al lato della figura
principale

Info per inclinazione lati

EptSetInfo (id, "SideAng", φ)

EptSetInfo (id, "OrigSideAng", φ)

EptSetInfo (id, "Heel", $\Delta\text{Heel}[\text{mm}]$)

$\varphi \approx 1 \div 2 \text{ mm}$
in determinati
casi

con $\varphi = \begin{cases} (+) = \text{"soprasquadra"} \\ (-) = \text{"sottosquadra"} \end{cases}$

Si suppongono i lati già ordinati

Si suppone nota e definita (v. tabella 'SideTab') la situazione (A/F/niente) e l'angolo ($sx/dx \dots$) con il lato precedente e seguente

entità e 'direzione'

(a ogni lato)

Ogni record della tabella deve contenere

Side Rec	• a = Id del lato
	• b = 'info' del lato: 0/nil = niente 1 = alzatino 2 = frontalino
	• U = vettore iniziale
	• V = " finale
	• y = angolo tra lato precedente e attuale • z = " " " attuale e successivo

superato

FRONTALINI

NOTA

La combistice è identica anche per altazime

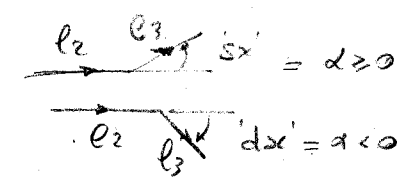
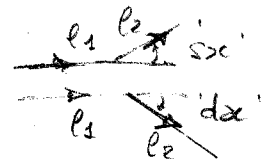
Combinazione dei casi.

Legenda F_p = frontolino nel lato precedente < 'true' < 'false'

F_s = " nel lato successivo < " < "

sdp = angolo ^{da lato} precedente < 'sx' < 'dx'

sds = " " successivo < " < "



Con riferimento al lato precedente (1) < f. 4

si possono avere le seguenti combinazioni di casi

	F_p	sdp	def.
3)	'true'	'sx' $d \geq 0$	$F_p 1. sx$
4)	'true'	'dx' $d < 0$	$F_p 1. dx$
1)	'false'	'sx' $d \geq 0$	$F_p 0. sx$
2)	'false'	'dx' $d < 0$	$F_p 0. dx$

γ inclinazione lavorazione

$$-(90 - \beta/2 + \delta)$$

$$(90 - \beta/2) - \delta$$

$$< (90 - \beta) \text{ per } \beta < 90$$

$$\text{per } \beta \geq 90$$

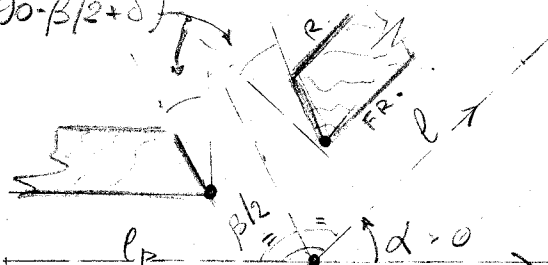
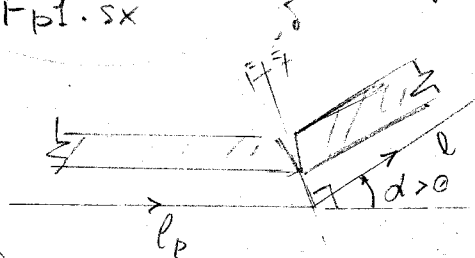
$$< 90 - \beta \text{ per } \beta < 90$$

$$\text{per } \beta \geq 90$$

3)

$F_p 1. sx$

$$\gamma = -(90 - \beta/2 + \delta)$$



es: $d = 90^\circ$

$\beta = 90^\circ$

$\beta/2 = 45^\circ$

$$\gamma = -45 - \delta$$

1)

$F_p 0. sx$

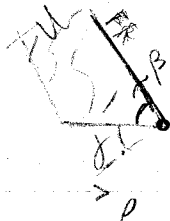
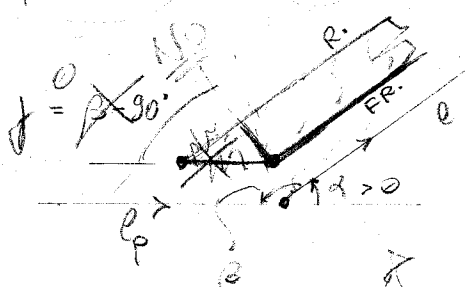
$$\beta = 180 - d$$

$$180 - d = \beta > 0$$

es: $d = 90^\circ$

$\beta = 90^\circ$

$\gamma = 0^\circ$



2)

1)

$$\beta < 90 \Rightarrow \gamma < 0$$

$$\beta > 90 \Rightarrow \gamma > 0$$

No:

$$\gamma = (90 - \beta)$$

viste di sezioni

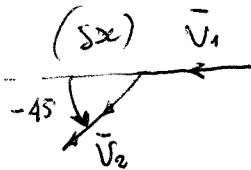
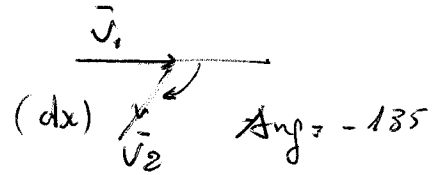
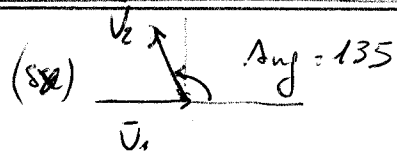
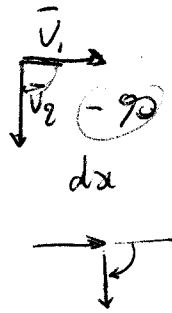
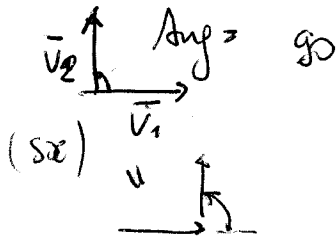
orizzontali, con i frontolini

già in piedi

Compo A&F

[v. EftCompo / getAngTestLab]

PROVE CON FUNZIONE $\arctan 2 (\vec{v}_1 \wedge \vec{v}_2 \dots)$



[NOTA: viste di sezioni orizzontali con i frontali già ... in piedi]

2)

$F_{p0} \cdot dx \cdot 2$

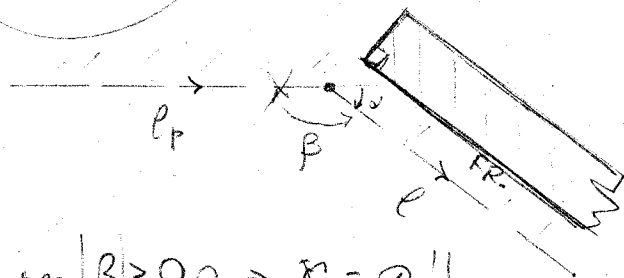
$$\alpha < 0$$

$$-f = -180 - \alpha$$

$$f = + (180 + \alpha)$$

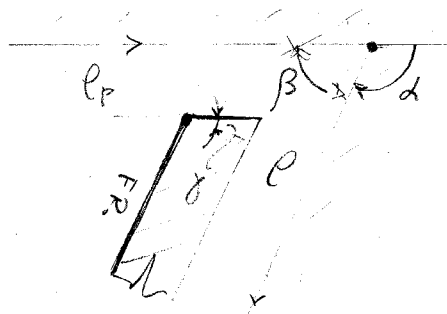
.1

$$\beta = 90^\circ \Rightarrow \gamma > 0$$



$$\text{per } |\beta| \geq 90 \Rightarrow \gamma = 0!!$$

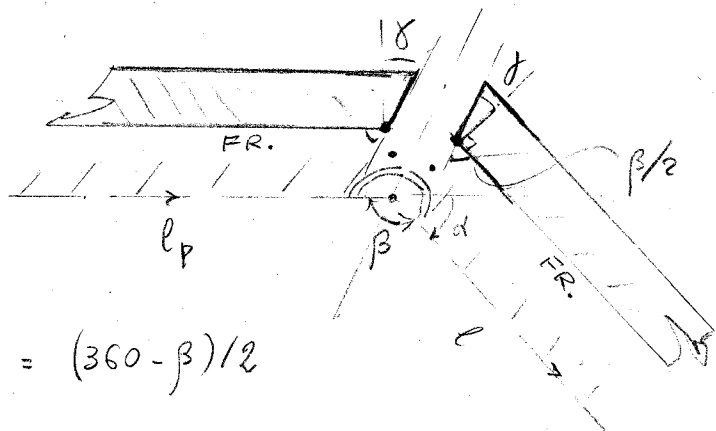
?? o taglio // al lato adiacente ?? 0



$$\gamma = 90 - \beta$$

4) $F_{p1} \cdot dx$

$$\alpha < 0$$



$$\bullet = (360 - \beta)/2$$

$$\gamma = 180 - 90 - \beta/2 - \delta$$

$$= \boxed{90 - \beta/2 - \delta}$$

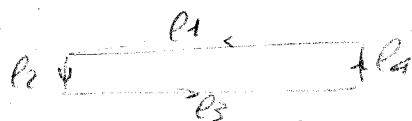
$$\text{es. per } \beta = 90$$

$$= \gamma = 90 - 45 = 45$$

$$\text{es. per } \beta = 180$$

$$\gamma = 0 \Leftarrow \delta = 0? \quad \square$$

* Aggiungere angolo di -45° sul lato $l_1!!$
(ossia lato lungo superiore del frontale)



(PROSPETTO del frontale già ... in piedi)

1) Le cose non cambiano con riferimento al lato successivo? v. p. 10

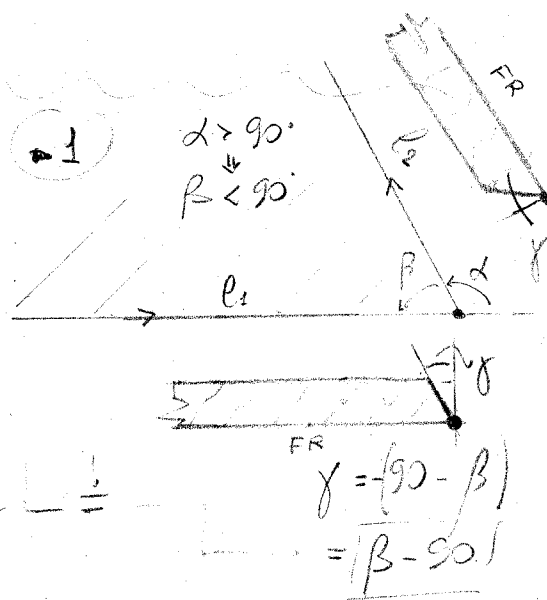
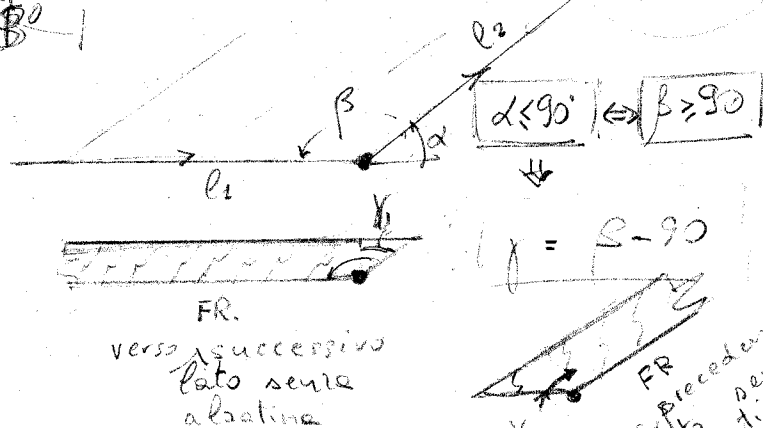
Comma A&F

4)

ALZATINE Valgono gli stessi casi dei frontolini? ^{Non esattamente} (1)

	Ap/s	sols	def	
1) false	sx	Ap ^{ps} . sx	$\beta > 90^\circ$ $\alpha < 90^\circ$ $\gamma = \beta - 90 \leftarrow$ $\alpha > 90^\circ$ $\gamma = \beta - 90 \leftarrow -(90 - \beta)$	
2) false	dx	Ap ^{ps} . dx	$\beta > 90^\circ$ $ \alpha < 90^\circ$ $\gamma = 90 - \beta$ $\beta < 90^\circ$ $\gamma = 90 - \beta \leftarrow -(\beta - 90)$	
3) true	sx	Ap ^{ps} . sx	come per frontolini	
4) true	dx	Ap ^{ps} . dx		

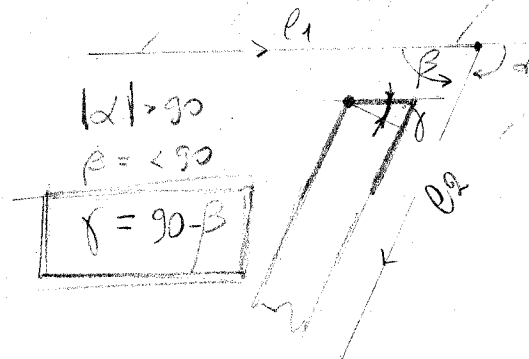
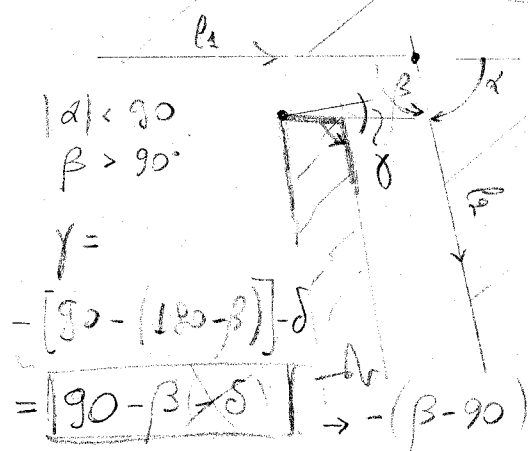
1) Ap^{ps}. sx 2



2) Ap^{ps}. dx 2

$\alpha < 0 \quad \beta = (180 + \alpha)$

Ap^{ps}. dx 2



In caso di discontinuità

IP tagliato alle estremità delle alzatine deve essere parallelo al lato precedente (successivo)

DISTANZIAMENTO

Ip1: non più di 2 angoli a 'dx'
($\alpha < 0$) consecutivi

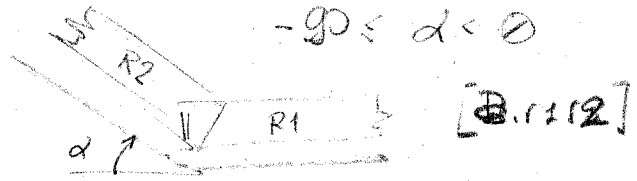
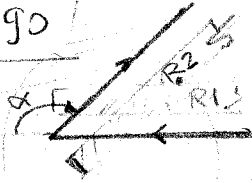
CASO (a)

In caso di Citi successivi ~~costanti~~ A/F
se $|\alpha| < 90^\circ$ ci sarà sovrapposizione

Ip2: per $\alpha = 1$
 $d_p > 0$ ($= 'asx'$)

$dx; \alpha < -90$

$[a, r1r2]$



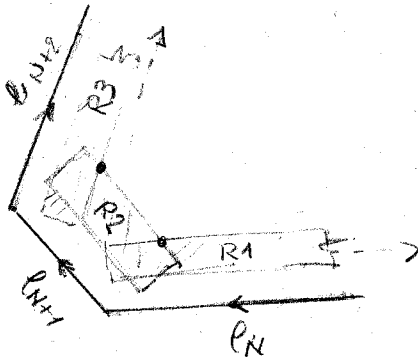
NOTA: in caso di $d > 90$ ci sarebbe una interferenza dei rettangoli con i lati del componente!

↳ caso 4bis J.

CASO (b)

Ma può esserci sovrapposizione anche in caso di due angoli successivi α_1 e α_2 con $-(\alpha_1 + \alpha_2) > 90^\circ$. Dipende anche dal lato intermedio. Anche in questo caso, pur non intersecandosi direttamente $R1$ e $R3$, questi andranno fatti 'scivolare' per evitare la sovrapposizione con $R2$.

$[b, r1r2r3]$



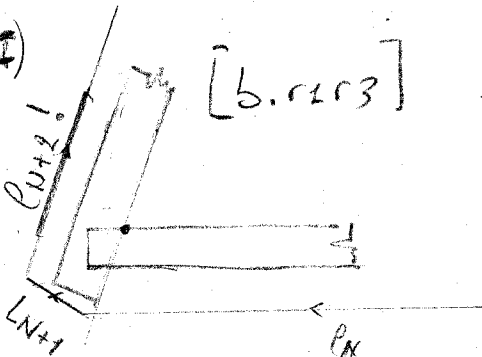
Ip.: in caso 2, si può escludere sovrapposizione se

$-(\alpha_1 + \alpha_2) < 90^\circ$? \uparrow (Dipende però dalla length. di p_2)

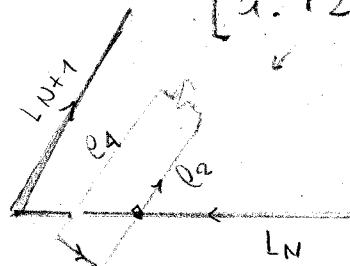
NO

CASO 3

CASO (c)



CASO 1bis = $[a, r1]$
 $[a, r2]$



Potrebbe esserci anche il caso 3bis!! v.f. di prima

Comp A&F

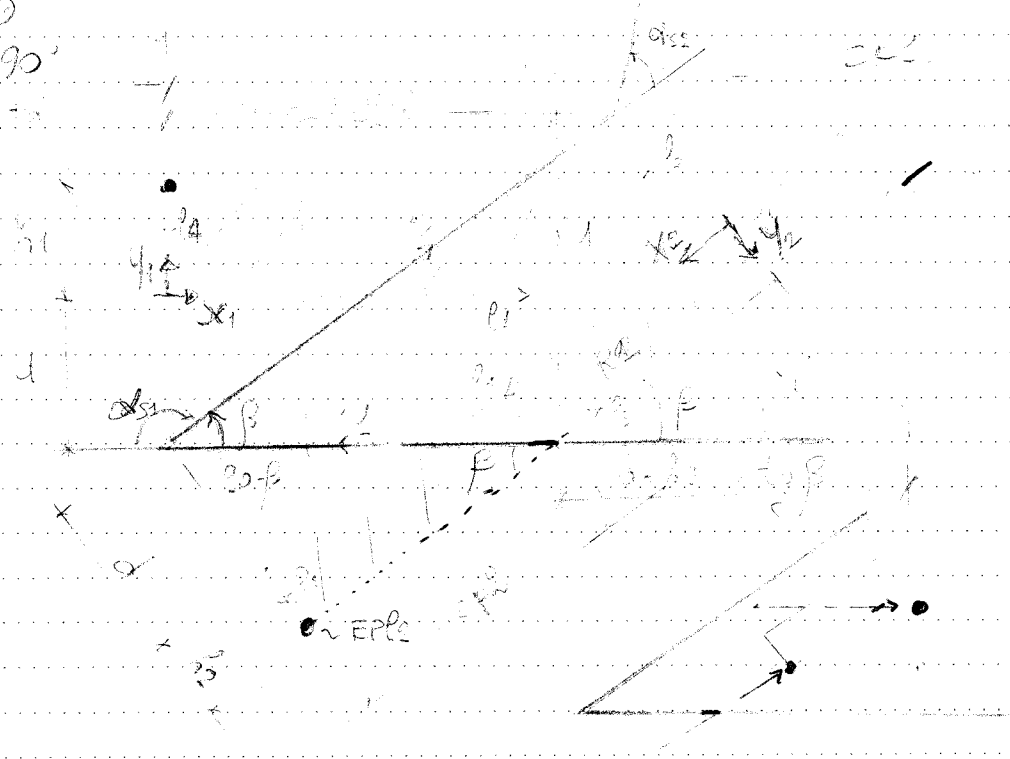
THEMA/TOPIC/THÈME

Intersectione de duas retas

3.11.12

DATUM/DATE/DATE:

$d \neq 0$
 $|d| > 90^\circ$
 $\beta = 180^\circ - \alpha$



de duas retas
 $d \neq 0$
 $|d| > 90^\circ$
 $\beta = 180^\circ - \alpha$

de duas retas
 $d \neq 0$
 $|d| > 90^\circ$

de duas retas
 $d \neq 0$
 $|d| > 90^\circ$

$$sp2x = - (d + m2 + q : 90^\circ - \beta)$$

$$sp1x = \left(\frac{d + m2}{\sin \beta} + \frac{d + m1}{\sin \alpha} \right)$$

$$f = \frac{1}{2} \left(\frac{1}{\sin \alpha} + \frac{1}{\sin \beta} \right) = \frac{1}{2} \left(\frac{1}{\sin \alpha} + \frac{1}{\sin (180^\circ - \alpha)} \right) = \frac{1}{2} \left(\frac{1}{\sin \alpha} + \frac{1}{\sin \alpha} \right) = \frac{1}{\sin \alpha}$$

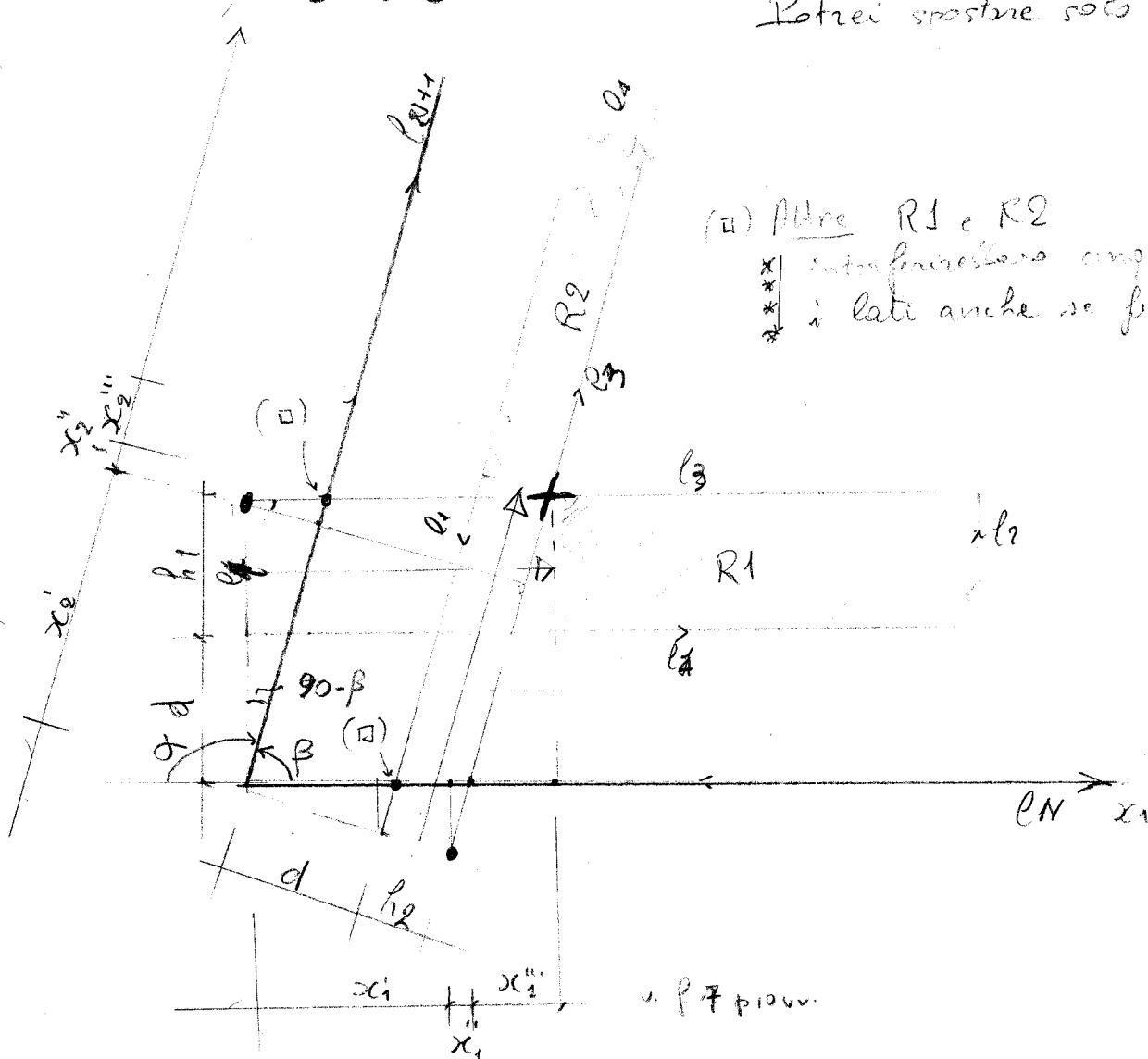
Epura

segue [a.d.x.ch.]
a.11r2

Potrei spostare solo R1!?

(□) Altre R1 e R2

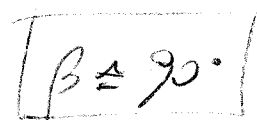
*** interferiscono ang. con
*** i lati anche se fossero 'celi'!



[a.d.x.ch.1] = posso spostare indietro R1

[a.d.x.ch.2] = non posso " " R1 !

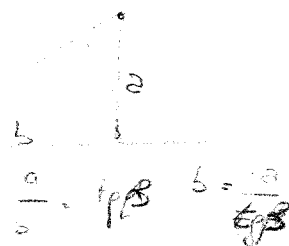
=> devo spostare avanti R2 !



$$\frac{d}{dx} \ln x = \frac{1}{x}$$

$$[\underline{a, d, ch}] [2, r1, r2]$$

$$x_2 = d + h_1$$


$$x_t = (d + h_2) \sin \beta + \frac{(d + h_2) \cos \beta \cdot \tan \beta}{\sin \beta} + (d + h_2) / \tan \beta$$

* o. valido⁺ ante per $\beta > 90^\circ$? NO.

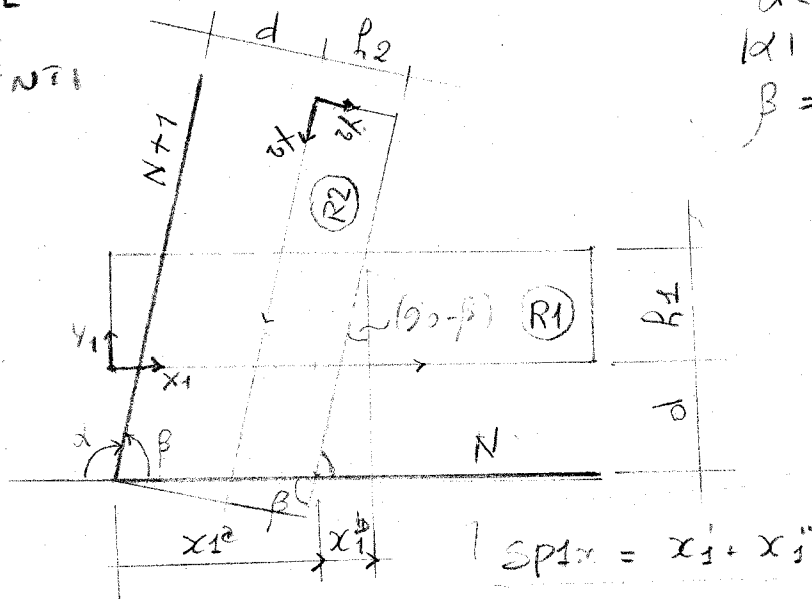
$$[a, r] \rightarrow [2, r1, r2]$$

§ POSTAMENTI
di (R1)

$$\alpha \ll 0$$

$$|\alpha| \geq 90 \quad |\alpha| < 180$$

$$\beta = 180 + \alpha \gg 0$$

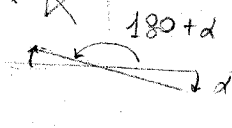


$$x_{1a} = \frac{d + h2}{\sin \beta}$$

$$x_{1b} = \frac{(d + h1)}{\tan \beta} = (d + h1) \cdot \tan(90 - \beta)$$

$$\sin \beta = \sin(180 + \alpha) = -\sin \alpha$$

$$x_{1a} = -\frac{d + h2}{\sin \alpha}$$

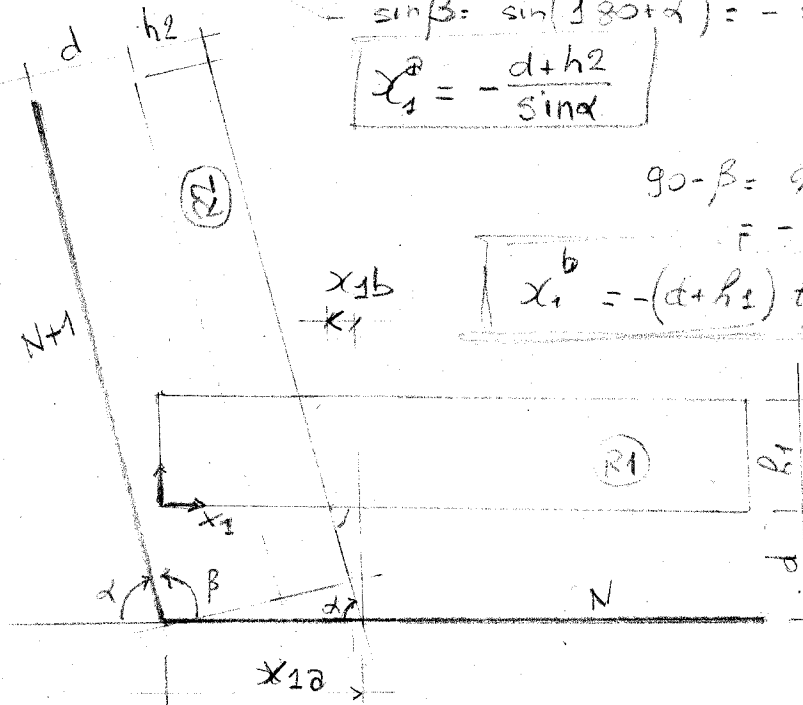


$$90 - \beta = 90 - 180 - \alpha = -(90 + \alpha) !!$$

$$x_{1b} = -(d + h1) \tan(90 + \alpha)$$

$$\alpha \ll 0$$

$$|\alpha| < 90$$



$$|x_{1a}| = \frac{d + h2}{\sin \alpha}$$

$$|x_{1b}| = -d \cdot \tan(90 + \alpha)$$

$$x_{1_{tot}} = |x_{1a}| - |x_{1b}|$$

(*) meglio utilizzare $\sin \beta !!$ □

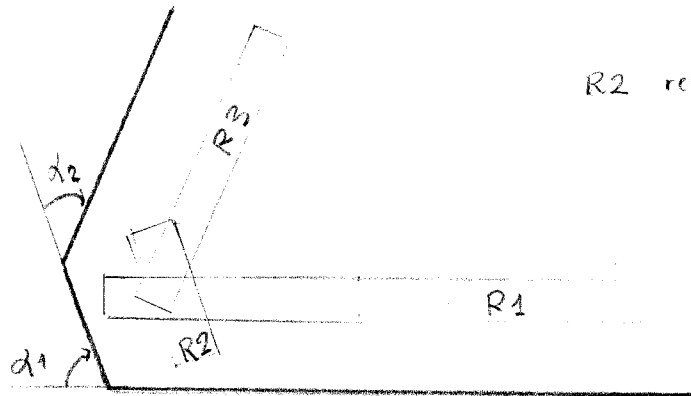
$$[b] \xrightarrow{g} [b, r_1 r_2 r_3] =$$

$$d_1 < 0$$

$$d_2 < 0$$

$$[.1] \left\{ \begin{array}{l} |\alpha_1| \leq 90^\circ \\ |\alpha_2| \leq 90^\circ \end{array} \right.$$

$$\Downarrow \\ |\alpha_1| + |\alpha_2| \leq 180^\circ$$



R2 resta ferma

R2 resta ferma

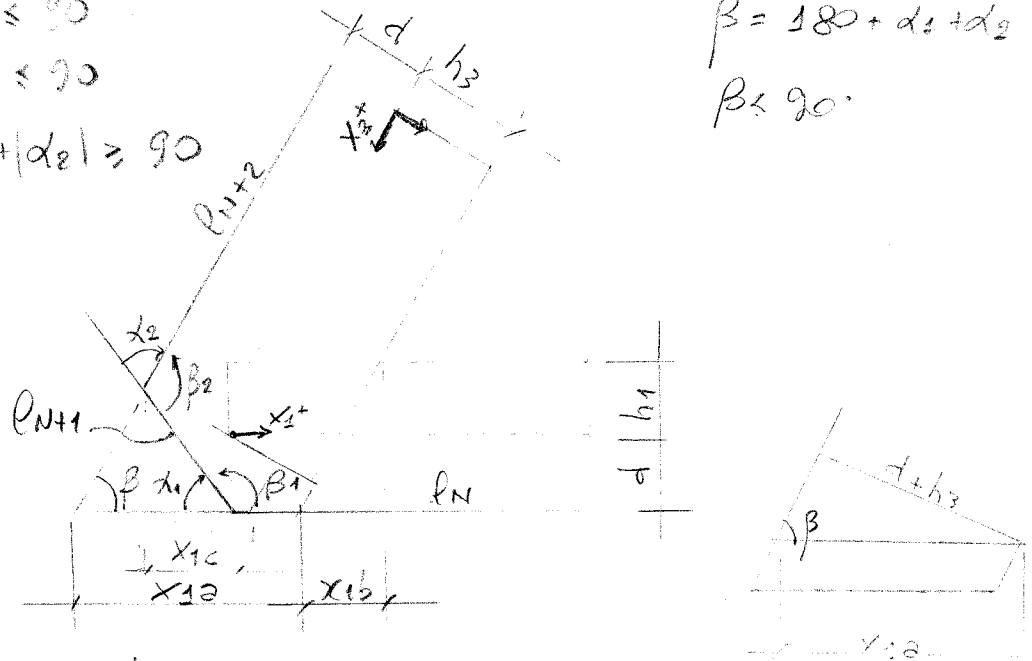
R1 si muove come per il caso $[a, r_1 r_2]$

R3 " " come R2 per il caso $[a, r_1 r_2]$

[C.F.13] SPOSTAMENTI DI R₂

1] $|d_1| \leq 90$
 $|d_2| \leq 90$
 $|d_1| + |d_2| \geq 90$

$\beta = 180 + d_1 + d_2$
 $\beta \leq 90$

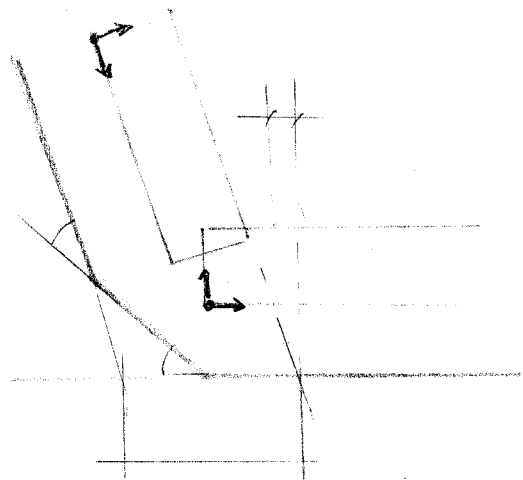


$|x_{1c}| = L_{N+1} \cdot \cos d_1$
 (>0)

$|x_{1a}| = \frac{d+h_3}{\sin \beta}$; $|x_{1b}| = (d+h_3) \tan(90-\beta)$
 (>0) $(>0) = -(d+h_3) \tan(90+d)$

$x_g = |x_{1a}| + |x_{1b}| - |x_{1c}|$ se >0 altrimenti 0

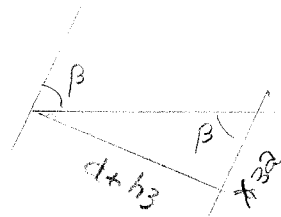
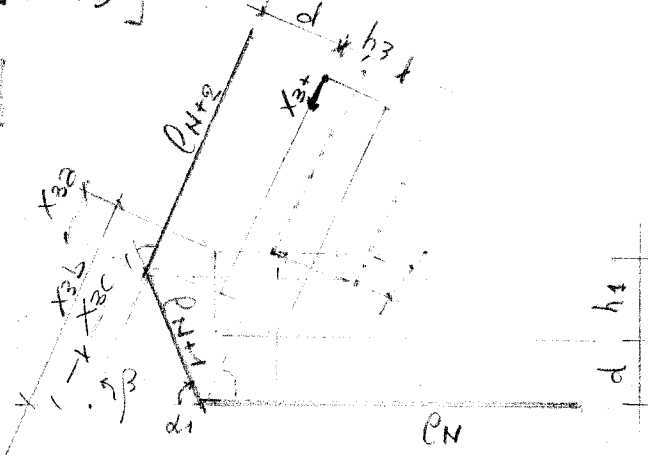
2] $|d_1| + |d_2| < 90$



[C. 113]

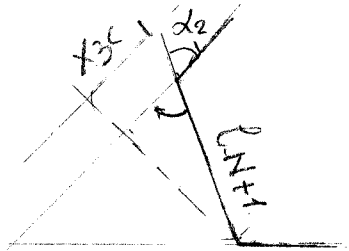
SPOTLIGHTING OF R2

(v. f. 11)



$$|X_{3b}| = + \frac{d+h_1}{\sin \beta}$$

$$\begin{aligned} |x_{32}| &= (d+h_3) \tan \frac{(90-\beta)}{2} = \\ &= -(d+h_3) \tan (90+\alpha) \end{aligned}$$



$$|X_{3c}| = L_{N+1} \cdot \cos \alpha_2$$

$$X_2 = -(|X_{3a}| + |X_{3b}| - |X_{3c}|)$$

THEMA/TOPIC/THÈME

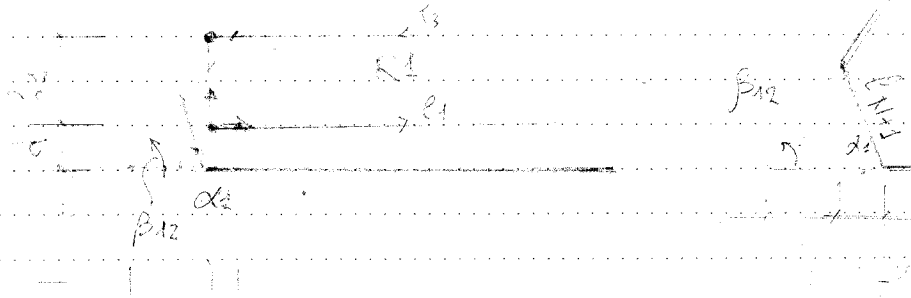
intersezione (c) $\leq c_p$

DATUM/DATE/DATE:

di

Yen solo riferimento agli assi del magnetico
il lato destro // verso la sinistra
di cui la sua

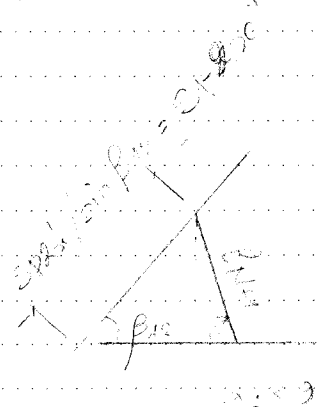
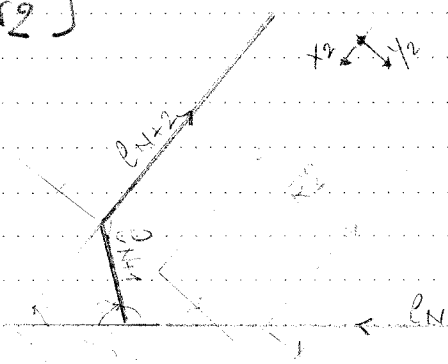
b. β_{12} da β_1 a β_2
[E. (1)]



$SP_{12} = \sin \alpha_1 \sin \alpha_2 + \cos \alpha_1 \cos \alpha_2$
da β_{12} a β_2 a β_1
a β_2 a β_1 a β_2

$\sin \alpha_1 \sin \alpha_2 + \cos \alpha_1 \cos \alpha_2 = \cos \beta_{12}$
 $\sin \alpha_1 \sin \alpha_2 + \cos \alpha_1 \cos \alpha_2 = \cos \beta_{12}$
a β_2 a β_1 a β_2

b. β_{12} da β_1 a β_2
[C. (2)]

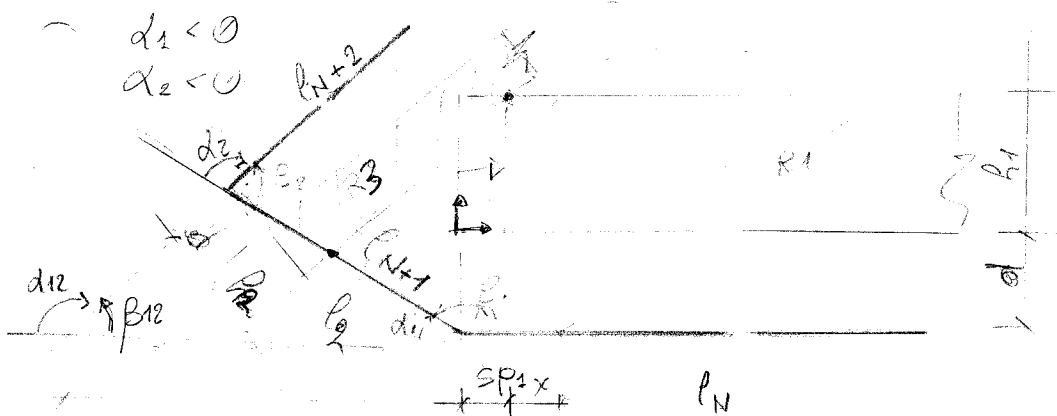


$\sin \alpha_1 \sin \alpha_2 + \cos \alpha_1 \cos \alpha_2 = \cos \beta_{12}$
a β_2 a β_1 a β_2

$SP_{12} = \sin \alpha_1 \sin \alpha_2 + \cos \alpha_1 \cos \alpha_2 = \cos \beta_{12}$
a β_2 a β_1 a β_2
a β_2 a β_1 a β_2

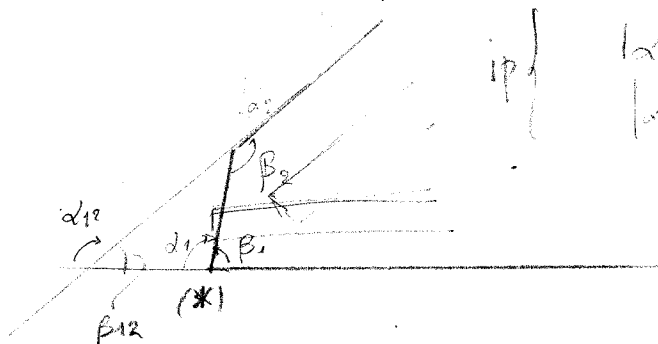
intersezione

~~(C223)~~ tipo [C0r113] (Potrei spostare solo R1!!)



ma attine
a intersezione
di L2(N+2) con
L(N+1)

o e anche se
ci fosse
L2(N+1) con L(N+2)



ip } $|\alpha_1| + |\alpha_2| > 90$
 $|\alpha_1| + |\alpha_2| < 180$

$$\beta_{12} = 180 + \alpha_{12}$$

$$0 < \beta_{12} < 90$$

$$SP1x = + \left(\frac{d+h_2}{\sin \beta_{12}} + \frac{d+h_1+q}{\tan \beta_{12}} \right) + \text{Lung.}(L_{N+1}) \cos \alpha_1 \quad (\alpha_1 < 0)$$

NON DATA v. f. 11 provv.

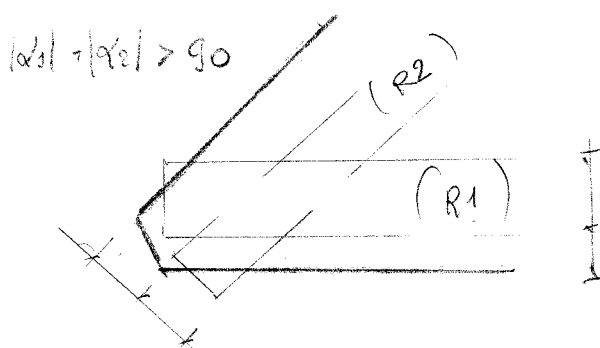
$$= + \left(\frac{d+h_2}{\sin \beta_{12}} + \frac{d+h_1+q}{\tan \beta_{12}} \right) + \text{Lung.}(L_{N+1}) \cdot \cos \alpha_1$$

NON DATA v. f. 11 provv.

se > 0 , altrimenti 0

Se $|\alpha_2| > 90$ R2 deve 'uscire' dal lato N+1

$$SP2x = - (d+h_2+q) \tan (90 - \beta_2)$$



Da vedere il caso di solo
R1 o solo R2 e possibile
intersezione con L(N+2) o
L(N-2) rispettivamente

* si ammette il caso $|\alpha_1| > 90$?

12 provv.
11 provv.