

$\frac{4.3.2}{1} \rightarrow B$ e' la giacitura di R , quindi $B \in \text{Aff} \Leftrightarrow X \in R \Leftrightarrow X = A + \mu B$

$$0 = C(B) = \mu C(B) = C(\mu B) = C(X-A) = C_2(X) \quad \forall \mu \in K \quad (4)$$

(3) la (4) vale $\forall \mu \in K$ e quindi $C_2(X) = 0 \quad \forall X$

$$(4) \Leftrightarrow C_2(X) = 0 \quad \forall X \in R \Leftrightarrow R \subseteq C_2$$

P. 1. Nel caso $F \in A^n$ e' facile verificare che $A \in C_2$, ovvero $C_2(A) = 0$

P. P. $C_2(A) = 0$

~~deg $C_2(X)$~~ ~~Euler pg 116~~ ~~$\sum_{j=1}^{n+1} \frac{\partial^2 F}{\partial x_j^2} x_j$~~ ~~$= \sum_{j=1}^{n+1} \frac{\partial^2 F}{\partial x_j^2} x_j$~~

$$F \in P^n \Rightarrow F \text{ omogeneo} \Rightarrow \frac{\partial^3 F}{\partial \dots} \text{ omogeneo}$$

$$p \cdot \sum_{i_1, \dots, i_{s-1}} \frac{\partial^{s-1} F}{\partial x_{i_1} \dots \partial x_{i_{s-1}}} x_{i_1} \dots x_{i_{s-1}} \stackrel{\text{Euler}}{=} \sum_{j=1}^{n+1} \frac{\partial}{\partial x_j} \left(\sum_{i_1, \dots, i_{s-1}} \frac{\partial^{s-1} F}{\partial \dots} x_{i_1} \dots x_{i_{s-1}} \right) = \sum_{j, i_1, \dots, i_{s-1}} \frac{\partial^s F}{\partial \dots} x_j x_{i_1} \dots x_{i_{s-1}}$$

Calcolando l'uguaglianza in A si ha:

$$p \cdot \mathcal{L}_{s-1}(A) = C_2(A)$$

$\parallel \in (2)$

Quindi $A \in C$. $\Rightarrow AB$ e' tangente a F in $A \Leftrightarrow AB \in C$

Sia $B \in C \setminus \{A\}$ $\uparrow$ 2.1

Quindi, per definizione, C e' un cono di vertice A

P. 2.1

Basta procedere a ritroso dalla (3), ponendo $R = AB$