

Def 2 (2) $|u \cdot v| \leq \|u\| \cdot \|v\|$

$w := u - \frac{u \cdot v}{v \cdot v} v$ ($w \perp v$)

$0 \leq \|w\|^2 = \|u\|^2 - \frac{u \cdot v}{v \cdot v} \cdot (u \cdot v) - \frac{u \cdot v}{v \cdot v} \cdot (u \cdot v) + \frac{u \cdot v}{v \cdot v} \cdot \frac{u \cdot v}{v \cdot v} \cdot (v \cdot v)$

$0 \leq (\|u\| \cdot \|v\|)^2 = \|u\|^2 \cdot \|v\|^2 - 2(u \cdot v) \cdot (u \cdot v) + (u \cdot v)^2$

$= \|u\|^2 \cdot \|v\|^2 - |u \cdot v|^2$

(1) $\|u+v\| \leq (\|u\| + \|v\|)$

$\|u+v\|^2 = \|u\|^2 + \|v\|^2 + u \cdot v + v \cdot u = \|u\|^2 + \|v\|^2 + 2(u \cdot v)$

$\leq \|u\|^2 + \|v\|^2 + 2|u \cdot v| \leq \|u\|^2 + \|v\|^2 + 2\|u\| \|v\|$

$= (\|u\| + \|v\|)^2$

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$A - B = m = m_Q + m_Q^\perp$

$\|m_Q^\perp\| = \rho(A, Q)$

ij računanje u bodu A, B

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$m = m_{Q_1+Q_2} + m_{Q_1+Q_2}^\perp$

$z(\mathcal{E}) = (z(Q_1) + z(Q_2)) + (z(Q_1) + z(Q_2))^\perp$

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$u \mapsto \begin{pmatrix} u \\ \|u\| \end{pmatrix}$

$v \mapsto \begin{pmatrix} v \\ \|v\| \end{pmatrix}$

$0 \leq \frac{u \cdot v}{\|u\| \|v\|} \leq 1$

$\cos \varphi = \frac{u \cdot v}{\|u\| \|v\|}$

$u = (1, 0)$

$v = (\cos \varphi, \sin \varphi)$

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n_1

n_2

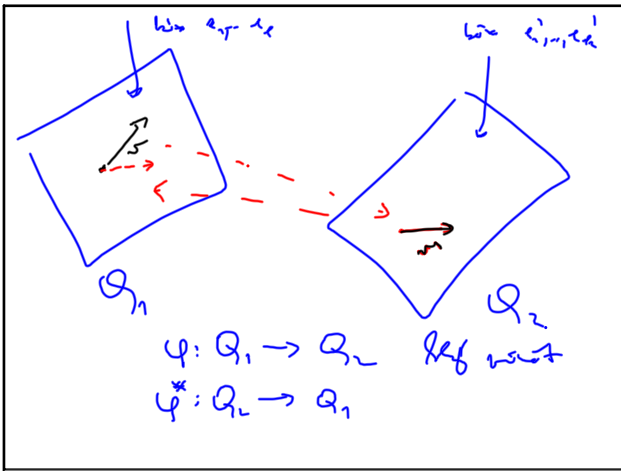
$(n_1 \times n_2)^\perp$

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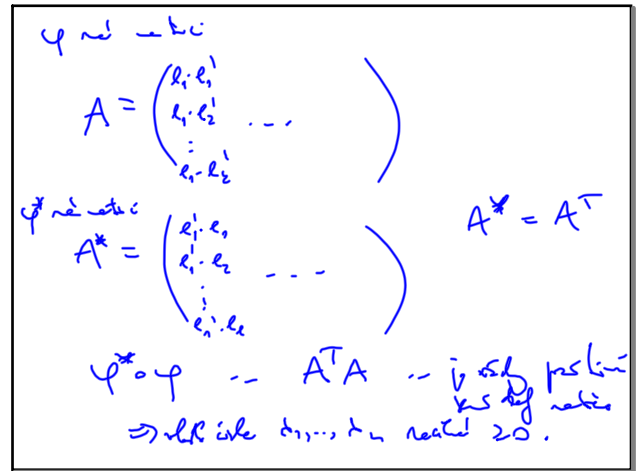
$\cos \varphi(\langle w, u \rangle) = \cos \varphi(\langle w, n_1 \rangle)$

$= \frac{\|w_1\|}{\|w\|}$

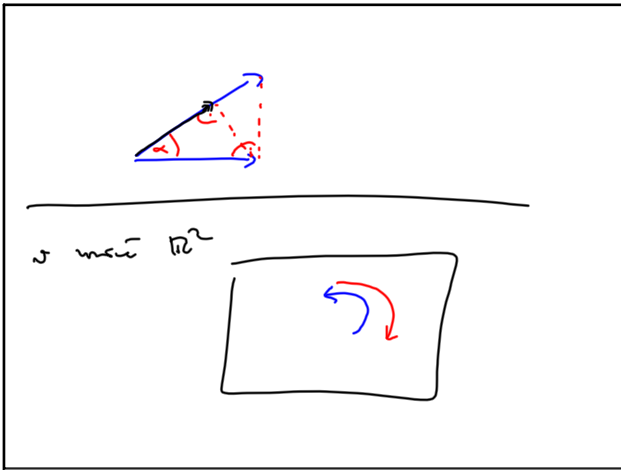
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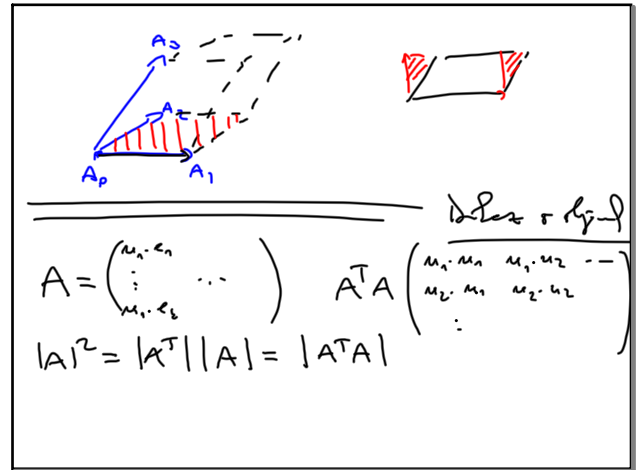
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$\text{Vol } \mathbb{R}^n(A; a_{11}, \dots, a_{1n}) = \|a_{11}\| \cdot \|a_{12}\| \cdot \|a_{13}\| \dots$
 $a_{1j} = a_{1j}$, a_{1j} sono vettori ortogonali fra loro -- Solido

$\Rightarrow (\text{Vol } \mathbb{R}^n(A; a_{11}, \dots, a_{1n}))^2 = \begin{vmatrix} a_{11} \cdot a_{11} & \dots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \dots & a_{1n} \cdot a_{1n} \end{vmatrix}$

$= \begin{pmatrix} a_{11} \cdot a_{11} & \dots \\ a_{11} \cdot a_{12} & \dots \\ \vdots & \vdots \\ a_{1n} \cdot a_{1n} & \dots \end{pmatrix}$

a_{11}, \dots, a_{1n} vettori \sim a_{11}, \dots, a_{1n} G-Sel ortogonali \Rightarrow

$B = \begin{pmatrix} a_{11} & a_{12} & \dots & a_{1n} \end{pmatrix} = C \cdot A \Rightarrow |B| = |A|$

\uparrow
 ha un $\det. = 1$ nel \mathbb{R}^n

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