$(II) \Rightarrow (III)$

$\mathbb{V} = [\mathbf{v}_1, \dots, \mathbf{v}_n]$

$\mathbf{x}_1, \dots, \mathbf{x}_n$

$\varphi([\mathbf{v}_1]) \subseteq [\mathbf{v}_1]$

$\mathbf{x} \in [\mathbf{v}_1], \quad \mathbf{x} = k\mathbf{v}_1$

$\varphi(\mathbf{x}) = k\varphi(\mathbf{v}_1) = k\lambda\mathbf{v}_1 \in [\mathbf{v}_1]$

$S \oplus T = [S \cup T], \quad S \cap T = \{0\}$

$(S_1 \oplus S_2 \oplus \dots) \oplus S_k =$

$$[\mathcal{N}_1] + [\mathcal{N}_2] = [\mathcal{N}_1, \mathcal{N}_2]$$

$$[\mathcal{N}_1] \cap [\mathcal{N}_2] \overset{?}{=} \{0\}$$

$$x \in [\mathcal{N}_1] \cap [\mathcal{N}_2],$$

$$x = k\mathcal{N}_1 = l\mathcal{N}_2$$

$$\left([\mathcal{N}_1] \oplus [\mathcal{N}_2] \oplus \dots \oplus [\mathcal{N}_{k-1}]\right) \overset{?}{\oplus} [\mathcal{N}_k]$$

$$x \in \qquad\qquad x$$

$\measuredangle(\eta, \nu) = \measuredangle(\mathrm{Din}\,\eta, \mathrm{Din}\,\nu)$

$\eta: (4,2,0,1,0) + \mathbb{R}(1,1,1,0,0) + \mathbb{R}(2,2,2,0,3)$

$\nu: (1,1,0,1,0) + \mathbb{R}(0,1,0,0,1) + \mathbb{R}(1,1,1,1,0) + \mathbb{R}(1,1,1,1,1)$

$\measuredangle(S,T) \qquad S \cap T = \{0\}$

$\measuredangle(S \cap (S \cap T)^{\perp}, T \cap (S \cap T)^{\perp})$.

$$\begin{array}{ccccc} r & h & q & p & v \\ \end{array}$$
$$\left(\begin{array}{ccccc} 0 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 & 3 \end{array}\right) \sim \left(\begin{array}{ccc|cc} 1 & 0 & 0 & 0 & 3 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{array}\right)$$

$$\left(\begin{array}{ccc|cc} 1 & 0 & 0 & 0 & 3 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{array}\right)$$

$p = 0 \quad v = 1$

$r = -3 \quad q = 0 \quad h = 0$

Dim $\eta \cap$ Dim $V = [(0,0,0,1)]$

$$\mathrm{Dim}\ \eta \cap [(1,0,0,0,0),(0,1,0,0,0),(0,0,1,0,0),(0,0,0,1,0)]$$

$$= [(1,1,1,0,0)] = S$$

$$\mathrm{Dim}\ v \cap [(1,0,0,0,0),\ldots\ldots] =$$

$$= [(1,1,1,1,0),(1,0,1,1,0)] = T$$

$$\alpha(S,T)$$

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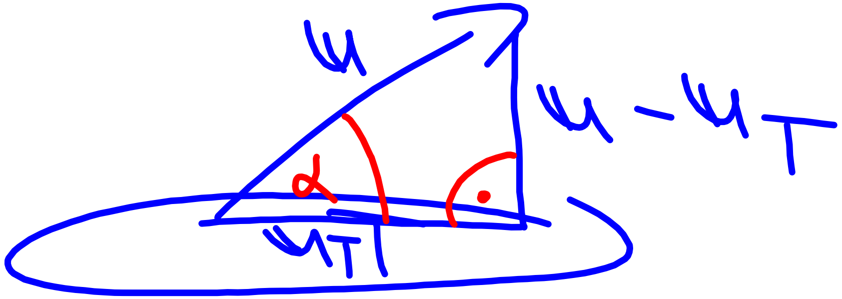

$$T = L[(1,1,1,1,0),\ (1,0,1,1,0)]$$

$$\cos\alpha = \frac{\|u_T\|}{\|u\|}$$

$$u = (1,1,1,0,0)$$

$$u_T = a(1,1,1,1,0) + b(1,0,1,1,0)$$

$$u - u_T \perp (1,1,1,1,0),\ (1,0,1,1,0)$$

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