Note Title 12/21/2020

Addendum
AL_2.4

$$u = \begin{pmatrix} u_1 \\ u_2 \\ u_3 \\ u_4 \end{pmatrix} \in \left\langle \underbrace{\begin{pmatrix} 1 \\ 1 \\ 1 \\ 0 \end{pmatrix}}_{v_1}, \underbrace{\begin{pmatrix} 0 \\ 0 \\ 0 \\ 1 \end{pmatrix}}_{v_2} \right\rangle^{\perp}$$

$$\begin{cases} 0 = \underbrace{(1,1,1,0)}_{v_1}\underbrace{(u_1,u_2,u_3,u_4)}_{u} = u_1+u_2+u_3 \\ 0 = \underbrace{(0,0,0,1)}_{v_2}(u_1,u_4,u_3,u_4) = u_4 \end{cases}$$

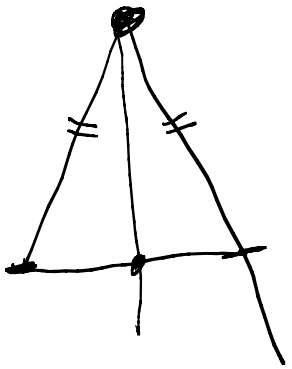
$$\begin{cases} u_1+u_2+u_3=0 \\ u_4=0 \end{cases} \qquad \begin{cases} u_1=-u_2-u_3 \\ u_4=0 \end{cases}$$

$$u_2\begin{pmatrix} -1 \\ 1 \\ 0 \\ 0 \end{pmatrix} + u_3\begin{pmatrix} -1 \\ 0 \\ 1 \\ 0 \end{pmatrix} = \left\langle (-1,1,0,0), (-1,0,1,0) \right\rangle$$

$$\begin{pmatrix} -u_2-u_3 \\ u_2 \\ u_3 \\ 0 \end{pmatrix} =$$

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

x_0 $v=(1,0,0,0)$



$|u| = \sqrt{4} = 2$

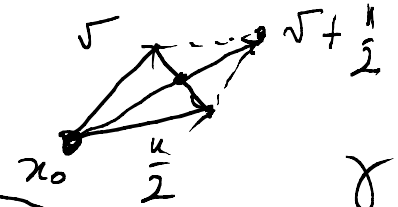
$|v| = 1$

$\left|\frac{u}{2}\right| = 1$

$\tilde{v} = \frac{|u|}{|v|} v$

$|\tilde{v}| = \frac{|u|}{|v|}|v| = |u|$

$v=(1,0,0,0)$ $\frac{u}{2} = \left(\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right)$



$v + u/2 = \left(\frac{3}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right)$

$\gamma(t) = x_0 + t\left(v + \frac{u}{2}\right)$

$(1,0,1,1) + s(3,1,1,1)$ $\quad t/2 = s$

$\gamma(t) = (1,0,1,1) + t\left(\frac{3}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right)$