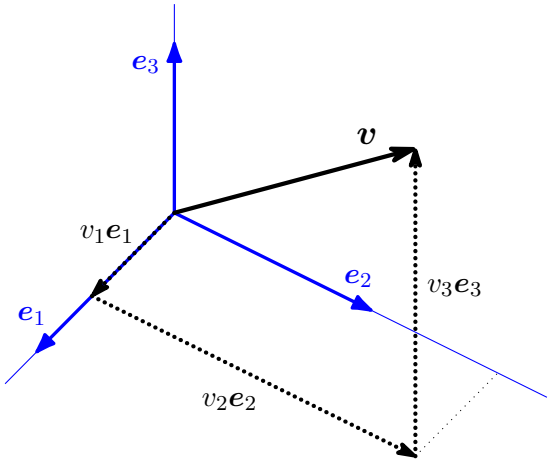
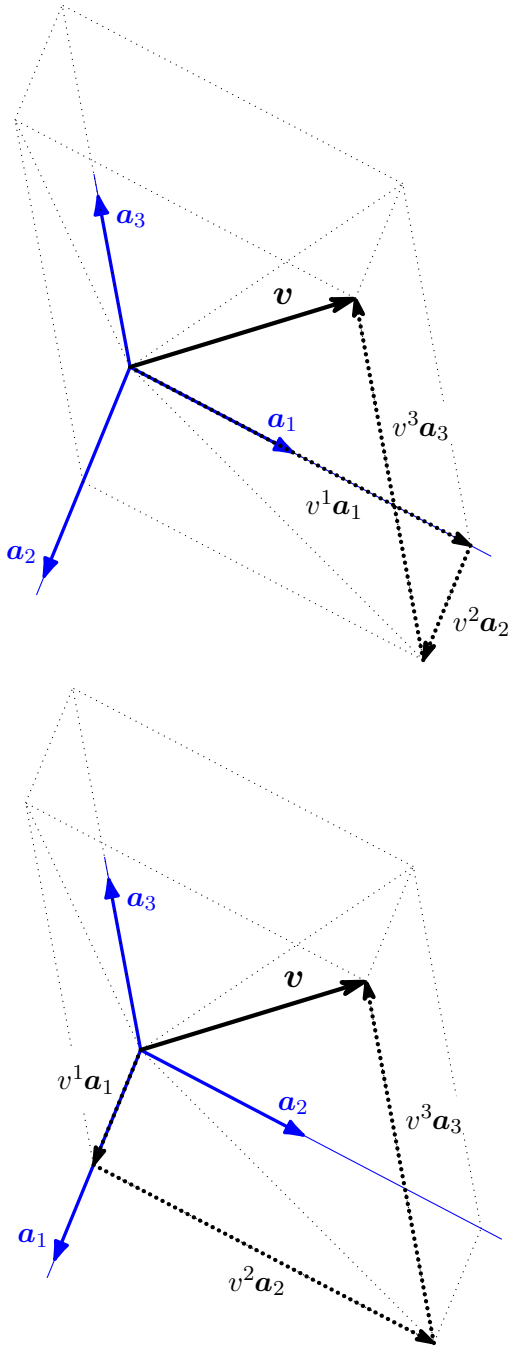
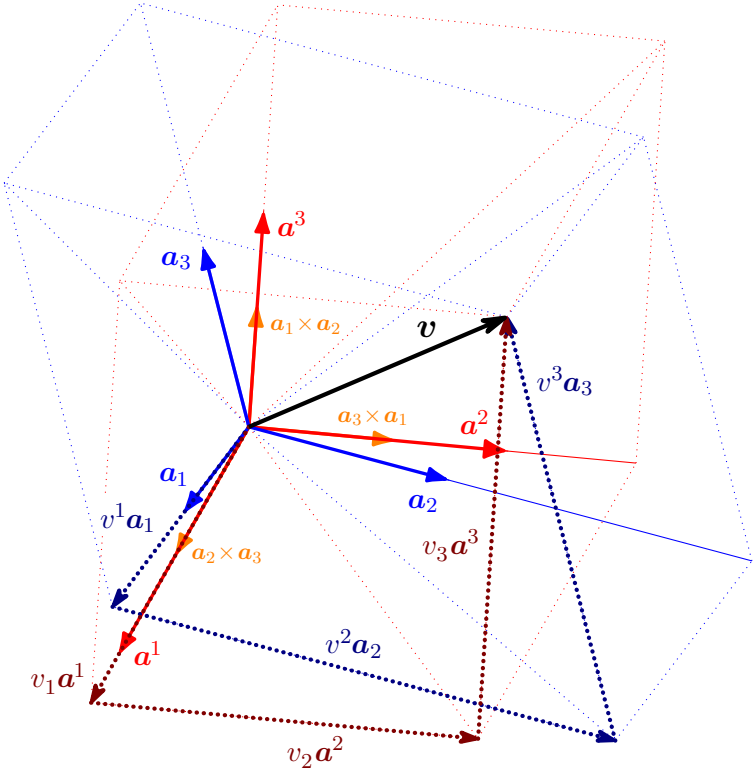

$\boldsymbol{e}_3$
$\boldsymbol{v}$
$v_1\boldsymbol{e}_1$
$\boldsymbol{e}_2$
$v_3\boldsymbol{e}_3$
$\boldsymbol{e}_1$
$v_2\boldsymbol{e}_2$


$\boldsymbol{a}_3$
$\boldsymbol{v}$
$\boldsymbol{a}_1$
$v^3\boldsymbol{a}_3$
$v^1\boldsymbol{a}_1$
$\boldsymbol{a}_2$
$v^2\boldsymbol{a}_2$
$\boldsymbol{a}_3$
$\boldsymbol{v}$
$v^1\boldsymbol{a}_1$
$\boldsymbol{a}_2$
$v^3\boldsymbol{a}_3$
$\boldsymbol{a}_1$
$v^2\boldsymbol{a}_2$

$\theta = 36°$ $\phi = 98°$

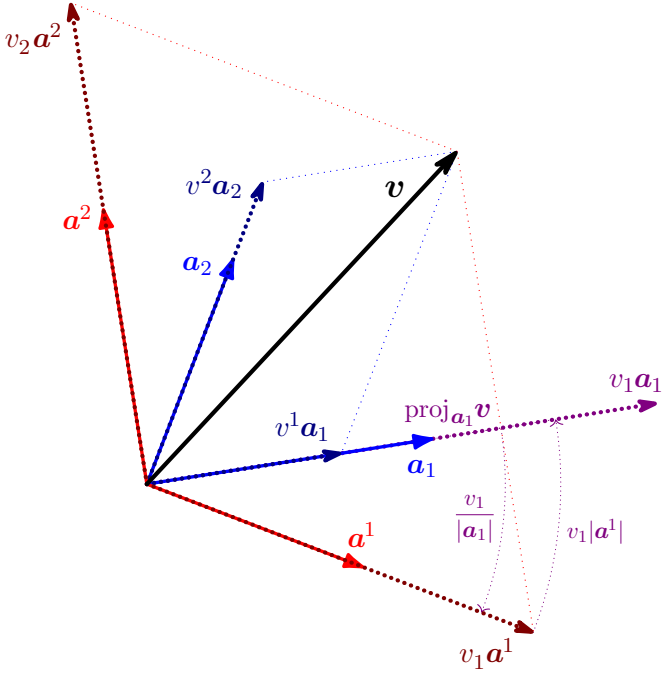
$\boldsymbol{v}^{\varrho} = 3.33$	$\boldsymbol{v}^{\theta} = 33°$	$\boldsymbol{v}^{\phi} = 44°$
$\boldsymbol{a}_1^{\varrho} = 0.69$	$\boldsymbol{a}_1^{\theta} = 71°$	$\boldsymbol{a}_1^{\phi} = -16°$
$\boldsymbol{a}_2^{\varrho} = 0.88$	$\boldsymbol{a}_2^{\theta} = 86°$	$\boldsymbol{a}_2^{\phi} = 77°$
$\boldsymbol{a}_3^{\varrho} = 0.96$	$\boldsymbol{a}_3^{\theta} = -19°$	$\boldsymbol{a}_3^{\phi} = 45°$



$$\boldsymbol{a}_1 \times \boldsymbol{a}_2 \cdot \boldsymbol{a}_3 = \sqrt{g} = 0.56274$$
$$1/\sqrt{g} = 1.77703$$

$$\boldsymbol{a}_i \cdot \boldsymbol{a}^j = \begin{bmatrix} \boldsymbol{a}_1 \cdot \boldsymbol{a}^1 & \boldsymbol{a}_1 \cdot \boldsymbol{a}^2 & \boldsymbol{a}_1 \cdot \boldsymbol{a}^3 \\ \boldsymbol{a}_2 \cdot \boldsymbol{a}^1 & \boldsymbol{a}_2 \cdot \boldsymbol{a}^2 & \boldsymbol{a}_2 \cdot \boldsymbol{a}^3 \\ \boldsymbol{a}_3 \cdot \boldsymbol{a}^1 & \boldsymbol{a}_3 \cdot \boldsymbol{a}^2 & \boldsymbol{a}_3 \cdot \boldsymbol{a}^3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} = \delta_i^j$$

figure 1
"Decomposition of vector"



$$\boldsymbol{a}_1 \cdot \boldsymbol{a}_1 = 1.44,\ |\boldsymbol{a}_1| = 1.2$$
$$\boldsymbol{a}_2 \cdot \boldsymbol{a}_2 = 1,\ |\boldsymbol{a}_2| = 1$$
$$\boldsymbol{a}^1 \cdot \boldsymbol{a}^1 = 0.9259,\ |\boldsymbol{a}^1| = 0.9623$$
$$\boldsymbol{a}^2 \cdot \boldsymbol{a}^2 = 1.3333,\ |\boldsymbol{a}^2| = 1.1547$$