$\theta = 36°$ $\phi = 98°$

$\boldsymbol{v}^\varrho = 3.33$ $\boldsymbol{v}^\theta = 33°$ $\boldsymbol{v}^\phi = 44°$

$\boldsymbol{a}_1^\varrho = 0.69$ $\boldsymbol{a}_1^\theta = 71°$ $\boldsymbol{a}_1^\phi = -16°$

$\boldsymbol{a}_2^\varrho = 0.88$ $\boldsymbol{a}_2^\theta = 86°$ $\boldsymbol{a}_2^\phi = 77°$

$\boldsymbol{a}_3^\varrho = 0.96$ $\boldsymbol{a}_3^\theta = -19°$ $\boldsymbol{a}_3^\phi = 45°$
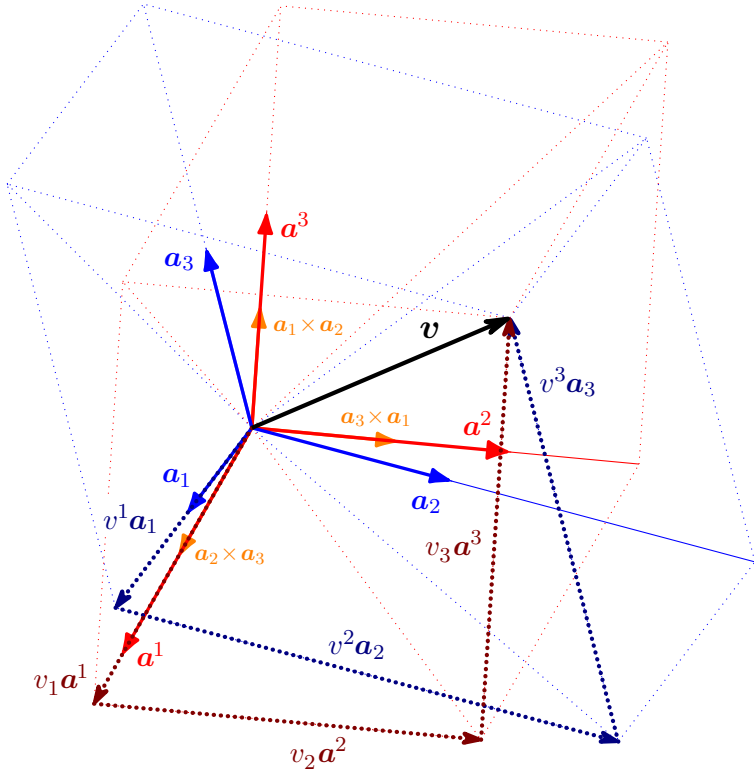
$\boldsymbol{a}_1 \times \boldsymbol{a}_2 \cdot \boldsymbol{a}_3 = \sqrt{g} = 0.56274$

$1/\sqrt{g} = 1.77703$

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

figure 1
"Decomposition of vector"
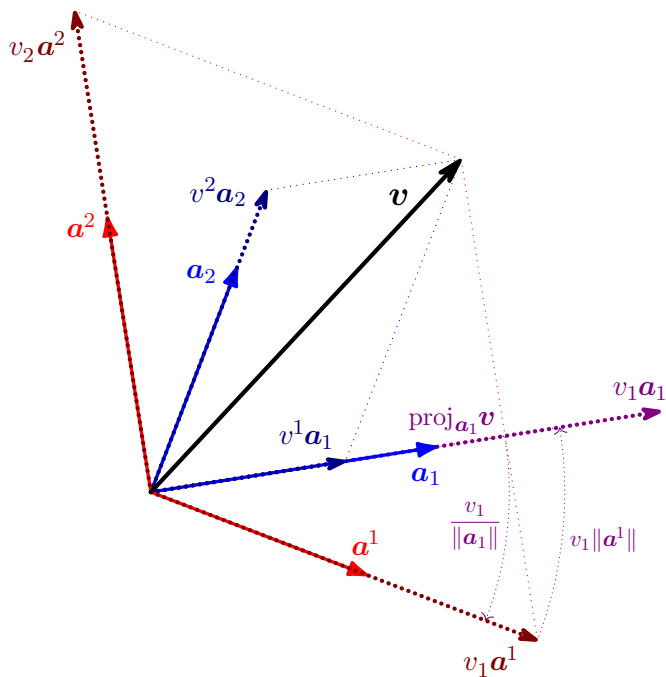
$$\boldsymbol{a}_1 \cdot \boldsymbol{a}_1 = 1.44, \ \|\boldsymbol{a}_1\| = 1.2$$
$$\boldsymbol{a}_2 \cdot \boldsymbol{a}_2 = 1, \ \|\boldsymbol{a}_2\| = 1$$

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