good

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When we differentiate this matrix and put $t=0$ we get

$$\begin{bmatrix} 0 & -\gamma\cos\theta & \gamma\sin\theta\sin\phi \\ \gamma\cos\theta & 0 & -\gamma\sin\theta\cos\phi \\ -\gamma\sin\theta\sin\phi & \gamma\sin\theta\cos\phi & 0 \end{bmatrix}$$

We can write this as

$$\gamma\cos\theta\begin{bmatrix} 0 & -1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} + \gamma\sin\theta\sin\phi\begin{bmatrix} 0 & 0 & +1 \\ 0 & 0 & 0 \\ -1 & 0 & 0 \end{bmatrix}$$

$$+ \gamma\sin\theta\cos\phi\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & -1 \\ 0 & 1 & 0 \end{bmatrix}$$

We can think of the coefficients of these matrices as angular speeds of rotation about perpendicular coordinate axes: the 1st is rotation in the x-y plane, the 2nd is rotation in the x-z plane, the third is rotation in the yz plane, and because the axes of rotation are perpendicular, the angular speeds of rotation are independent and so can take any values.

[illegible]

$$tv = \begin{pmatrix} tv_1 \\ tv_2 \\ tv_3 \end{pmatrix}, \text{ which has generator}$$

$$v_1\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix} + v_2\begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} + v_3\begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}$$