$$g_{ii} = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}$$

$$x_1 \rfloor x_1 == 1$$

$$x_1 \rfloor x_2 == 0$$

$$x_2 \rfloor x_1 == 0$$

$$x_2 \rfloor x_2 == 1$$

$-\infty < v < \infty$

$$(-v(x_1 \wedge x_2)/2) \cdot exp() == \cos\left(\frac{|v|}{2}\right) - \frac{v}{2\,|v|}\sin\left(\frac{|v|}{2}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 - \frac{v}{2\,|v|}\sin\left(\frac{|v|}{2}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_4 + \frac{v}{2\,|v|}\sin\left(\frac{|v|}{2}\right)\boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \frac{v}{2\,|v|}\sin\left(\frac{|v|}{2}\right)\boldsymbol{e}_3 \wedge \boldsymbol{e}_4$$

$0 \leq v < \infty$

$$(-v(x_1 \wedge x_2)/2) \cdot exp() == \cos\left(\frac{v}{2}\right) - \frac{1}{2}\sin\left(\frac{v}{2}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 - \frac{1}{2}\sin\left(\frac{v}{2}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_4 + \frac{1}{2}\sin\left(\frac{v}{2}\right)\boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \frac{1}{2}\sin\left(\frac{v}{2}\right)\boldsymbol{e}_3 \wedge \boldsymbol{e}_4$$