

■ Coordinate conjugations for Metaclass II

```
In[1]:= SetDirectory["~/writing/WIP/Conjugation/"];  
<< kappaLib.m
```

KappaLib v1.1

$$\text{In[3]:= mat1} = \begin{pmatrix} a1 & -b1 & 0 & 0 & 0 & 0 \\ b1 & a1 & 0 & 0 & 0 & 0 \\ 0 & 0 & a2 & 0 & 0 & -b2 \\ 0 & 1 & 0 & a1 & b1 & 0 \\ 1 & 0 & 0 & -b1 & a1 & 0 \\ 0 & 0 & b2 & 0 & 0 & a2 \end{pmatrix};$$

$$\text{H2} = \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \end{pmatrix};$$

$$\text{H3} = \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 & 0 & 0 \end{pmatrix};$$

```
kappa1 = emMatrixToKappa[mat1];  
kappa2 = emMatrixToKappa[H2.mat1.H2];  
kappa3 = emMatrixToKappa[H3.mat1.H3];
```

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Union[Flatten[kappa2 - kappa3]]
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Out[9]= {0}

$$\text{In[10]:= L} = \begin{pmatrix} 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \end{pmatrix};$$

```
kappa2a = emCoordinateChange[kappa2, L];  
Union[Flatten[kappa1 - kappa2a]]
```

Out[12]= {0}