



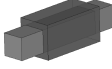
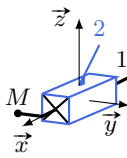
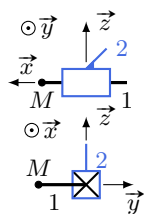
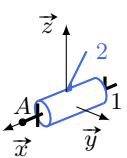
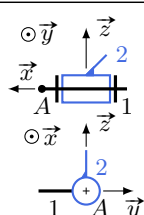
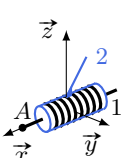
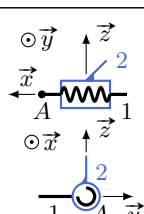
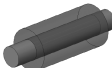
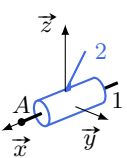
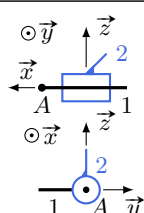
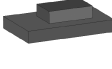
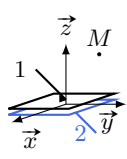
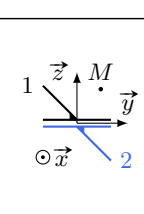
Liaisons normalisées

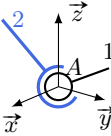
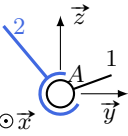
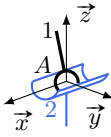
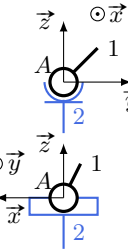
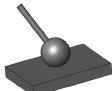
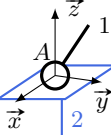
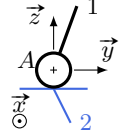
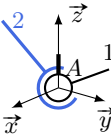
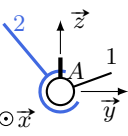
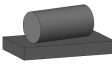
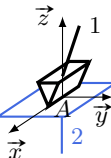
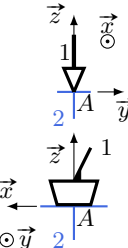
Formulaire

À savoir par cœur !

v2.5

Lycée Michelet – 5 Rue Jullien – 92170 Vanves – Académie de Versailles

Nom + Caractéristique	Schéma spatial (3D)	Schéma(s) plan(s) (2D)	Mobilités	$\{\mathcal{V}_{2/1}\}$	$\{\mathcal{T}_{2 \rightarrow 1}\}$
Encastrement			$\begin{bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$	$\begin{Bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_b$	$\begin{Bmatrix} X_{21} & L_{21} \\ Y_{21} & M_{21} \\ Z_{21} & N_{21} \end{Bmatrix}_b$
Glissière  Direction $\vec{x}$			$\begin{bmatrix} 0 & T_x \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$	$\begin{Bmatrix} 0 & V_{M,2/1}^x \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_b$ $\forall M$	$\begin{Bmatrix} 0 & L_{21} \\ Y_{21} & M_{21} \\ Z_{21} & N_{21} \end{Bmatrix}_b$
Pivot  Axe $(A, \vec{x})$			$\begin{bmatrix} R_x & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$	$\begin{Bmatrix} \omega_{2/1}^x & 0 \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_b$ $\forall M \in (A, \vec{x})$	$\begin{Bmatrix} X_{21} & 0 \\ Y_{21} & M_{21} \\ Z_{21} & N_{21} \end{Bmatrix}_b$
Hélicoïdale  Axe $(A, \vec{x})$			$\begin{bmatrix} R_x & T_x \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$	$\begin{Bmatrix} \omega_{2/1}^x & \frac{p}{2\pi} \omega_{2/1}^x \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_b$ $\forall M \in (A, \vec{x})$	$\begin{Bmatrix} X_{21} & -\frac{p}{2\pi} X_{21} \\ Y_{21} & M_{21} \\ Z_{21} & N_{21} \end{Bmatrix}_b$ Pas à gauche : $-\frac{p}{2\pi} \omega_{2/1}^x$ et $\frac{p}{2\pi} X_{21}$
Pivot glissant  Axe $(A, \vec{x})$			$\begin{bmatrix} R_x & T_x \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$	$\begin{Bmatrix} \omega_{2/1}^x & V_{A,2/1}^x \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_b$ $\forall M \in (A, \vec{x})$	$\begin{Bmatrix} 0 & 0 \\ Y_{21} & M_{21} \\ Z_{21} & N_{21} \end{Bmatrix}_b$
Appui plan  Normale au plan $\vec{z}$			$\begin{bmatrix} 0 & T_x \\ 0 & T_y \\ R_z & 0 \end{bmatrix}$	$\begin{Bmatrix} 0 & V_{M,2/1}^x \\ 0 & V_{M,2/1}^y \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$ $\forall M$	$\begin{Bmatrix} 0 & L_{21} \\ 0 & M_{21} \\ Z_{21} & 0 \end{Bmatrix}_b$

Nom + Caractéristique	Schéma spatial (3D)	Schéma(s) plan(s) (2D)	Mobilités	$\{\mathcal{V}_{2/1}\}$	$\{\mathcal{T}_{2 \rightarrow 1}\}$
Sphérique  Centre de la sphère A			$\begin{bmatrix} R_x & 0 \\ R_y & 0 \\ R_z & 0 \end{bmatrix}$	$_A \begin{Bmatrix} \omega_{2/1}^x & 0 \\ \omega_{2/1}^y & 0 \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$	$_A \begin{Bmatrix} X_{21} & 0 \\ Y_{21} & 0 \\ Z_{21} & 0 \end{Bmatrix}_b$
En A					
Sphère cylindre  Centre de la sphère A Direction $\vec{x}$			$\begin{bmatrix} R_x & T_x \\ R_y & 0 \\ R_z & 0 \end{bmatrix}$	$_A \begin{Bmatrix} \omega_{2/1}^x & V_{A,2/1}^x \\ \omega_{2/1}^y & 0 \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$	$_A \begin{Bmatrix} 0 & 0 \\ Y_{21} & 0 \\ Z_{21} & 0 \end{Bmatrix}_b$
En A					
Sphère plan  Point de contact A Normale au plan $\vec{z}$			$\begin{bmatrix} R_x & T_x \\ R_y & T_y \\ R_z & 0 \end{bmatrix}$	$_A \begin{Bmatrix} \omega_{2/1}^x & V_{A,2/1}^x \\ \omega_{2/1}^y & V_{A,2/1}^y \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$	$_A \begin{Bmatrix} 0 & 0 \\ 0 & 0 \\ Z_{21} & 0 \end{Bmatrix}_b$
$\forall M \in (A, \vec{z})$					
Sphérique à doigt  Centre de la sphère A Rotation bloquée $\vec{y}$ Direction du doigt $\vec{z}$			$\begin{bmatrix} R_x & 0 \\ 0 & 0 \\ R_z & 0 \end{bmatrix}$	$_A \begin{Bmatrix} \omega_{2/1}^x & 0 \\ 0 & 0 \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$	$_A \begin{Bmatrix} X_{21} & 0 \\ Y_{21} & M_{21} \\ Z_{21} & 0 \end{Bmatrix}_b$
En A					
Linéaire rectiligne (ou cylindre plan)  Droite de contact $(A, \vec{x})$ Normale au plan $\vec{z}$			$\begin{bmatrix} R_x & T_x \\ 0 & T_y \\ R_z & 0 \end{bmatrix}$	$_A \begin{Bmatrix} \omega_{2/1}^x & V_{A,2/1}^x \\ 0 & V_{A,2/1}^y \\ \omega_{2/1}^z & 0 \end{Bmatrix}_b$	$_A \begin{Bmatrix} 0 & 0 \\ 0 & M_{21} \\ Z_{21} & 0 \end{Bmatrix}_b$
$\forall M \in \text{plan}(A, \vec{x}, \vec{z})$					