MODELISATION DES LIAISONS ET ACTIONS MECANIQUES

TORSEUR DES EFFORTS TRANSMISSIBLES

TD 12-01

Référence au programme

S.T.I

1- Modélisation des liaisons et des Actions Mécaniques.

1-2 Modélisations des Actions Mécanique

Référence au module

*Module **2 :** :modélisation des A.M.*

Nom de la liaison	Degrés de liberté	Torseur des efforts transmissibles (spatial)	Torseur des efforts transmissibles simplifiés (plan)		
			Plan de symétrie $(\vec{x},\vec{y})$	Plan de symétrie $(\vec{y},\vec{z})$	Plan de symétrie $(\vec{x},\vec{z})$
Encastrement ou Fixe	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$
Pivot d'axe n	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$
Ponctuelle de normale n	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$
Pivot glissant d'axe n	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$
Linéaire annulaire d'axe n	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$
Appui Plan de normale n	TX RX TY RY TZ RZ	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$	${}_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{matrix} \\ \\ \end{matrix}\right\}_R$

TORSEUR DES EFFORTS TRANSMISSIBLES

Glissière d'axe n	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Rotule	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Linéaire Rectiligne d'axe n *et de normale* o	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Pivot d'axe o	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Ponctuelle de normale o	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Pivot glissant d'axe o	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$
Linéaire annulaire d'axe o	TX · RX TY · RY TZ · RZ	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$	$_A\{\tau_{2\rightarrow1}\}_R=\begin{Bmatrix} & \\ & \\ _A & \end{Bmatrix}_R$

MODELISATION DES LIAISONS ET ACTIONS MECANIQUES

TORSEUR DES EFFORTS TRANSMISSIBLES

TD 12-01

Référence au programme

S.T.I

1- Modélisation des liaisons et des Actions Mécaniques.

1-2 Modélisations des Actions Mécanique

Référence au module

*Module **2 :** :modélisation des A.M.*

Appui Plan de normale o	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Linéaire Rectiligne d'axe n et de normale p	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Pivot d'axe p	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Linéaire annulaire d'axe p	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Linéaire Rectiligne d'axe p et de normale o	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Ponctuelle de normale p	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$
Appui Plan de normale p	TX RX TY RY TZ RZ	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$	$_A\{\tau_{2\to1}\}_R = {}_A\left\{\begin{array}{cc} & \\ & \\ & \end{array}\right\}_R$