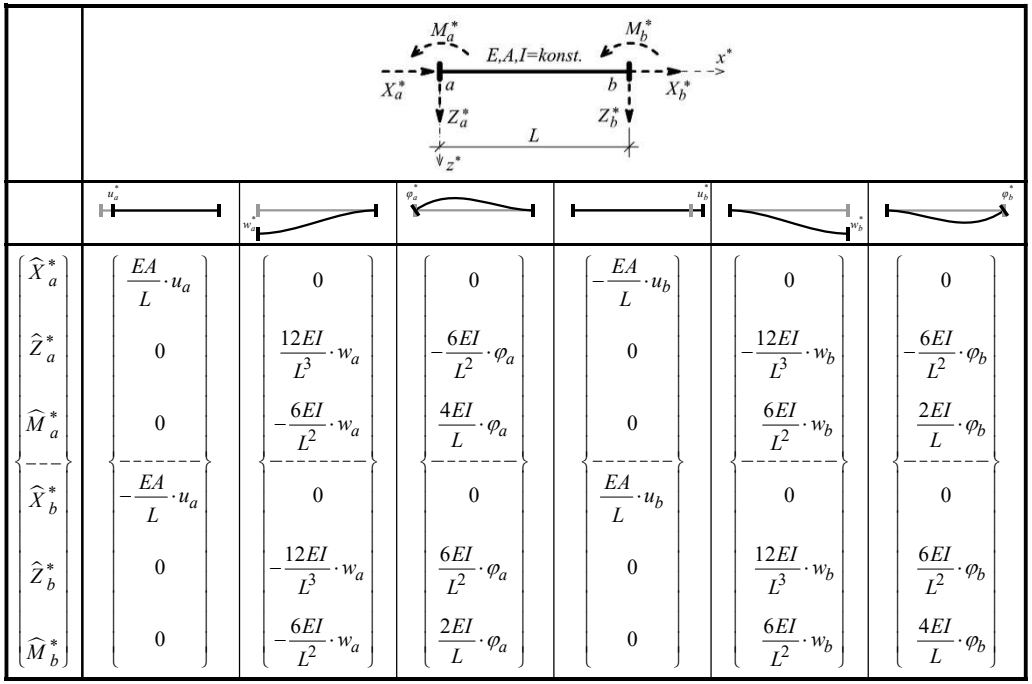
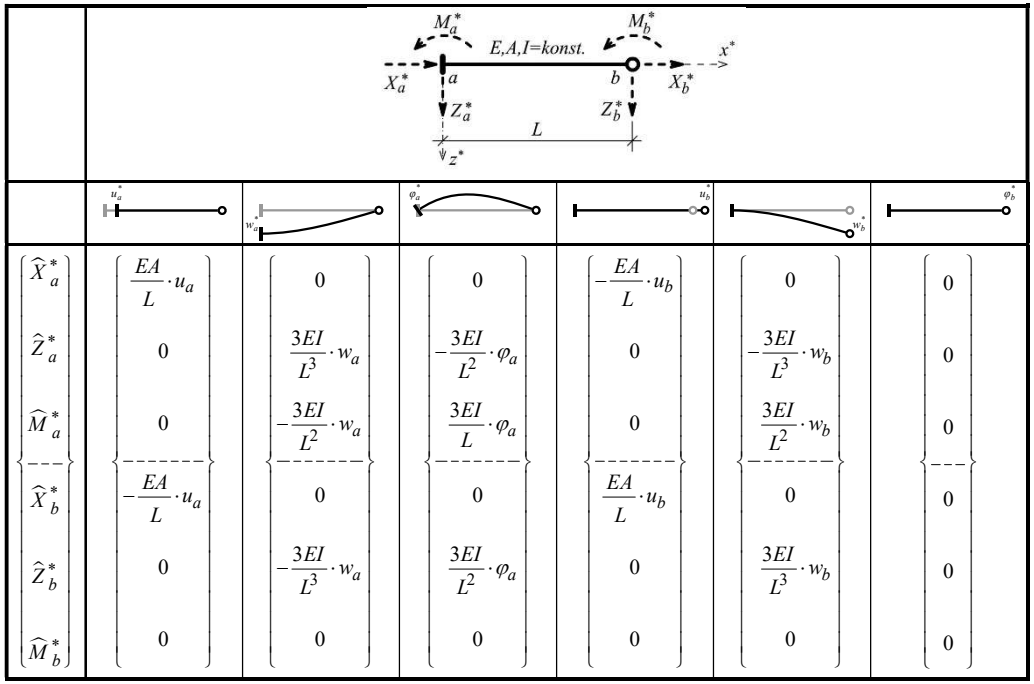
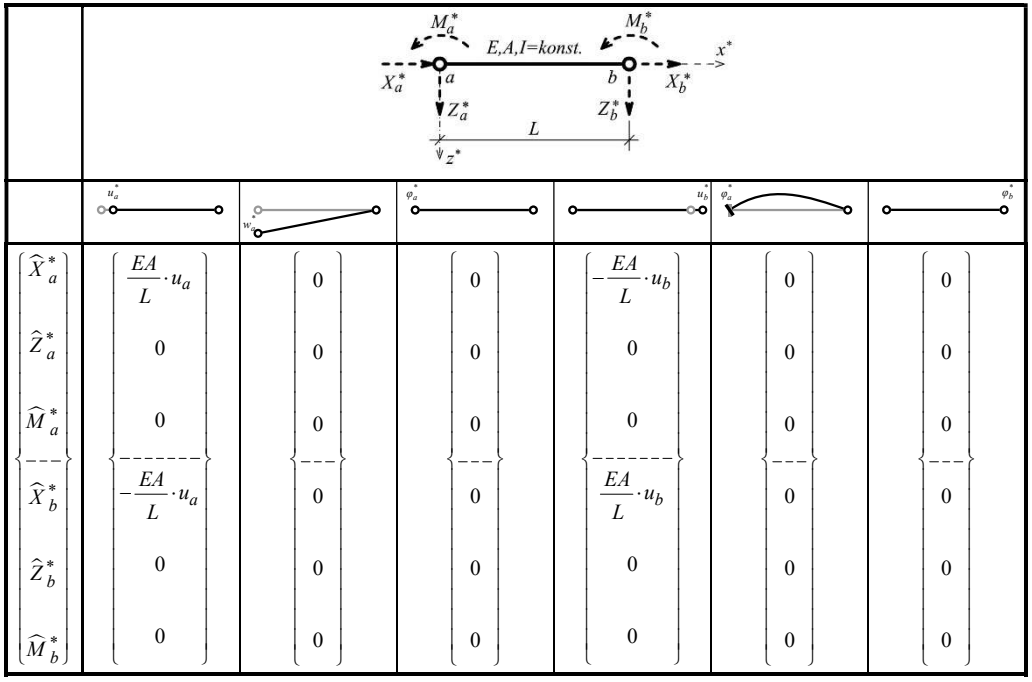
Tabulka sekundárních vektorů



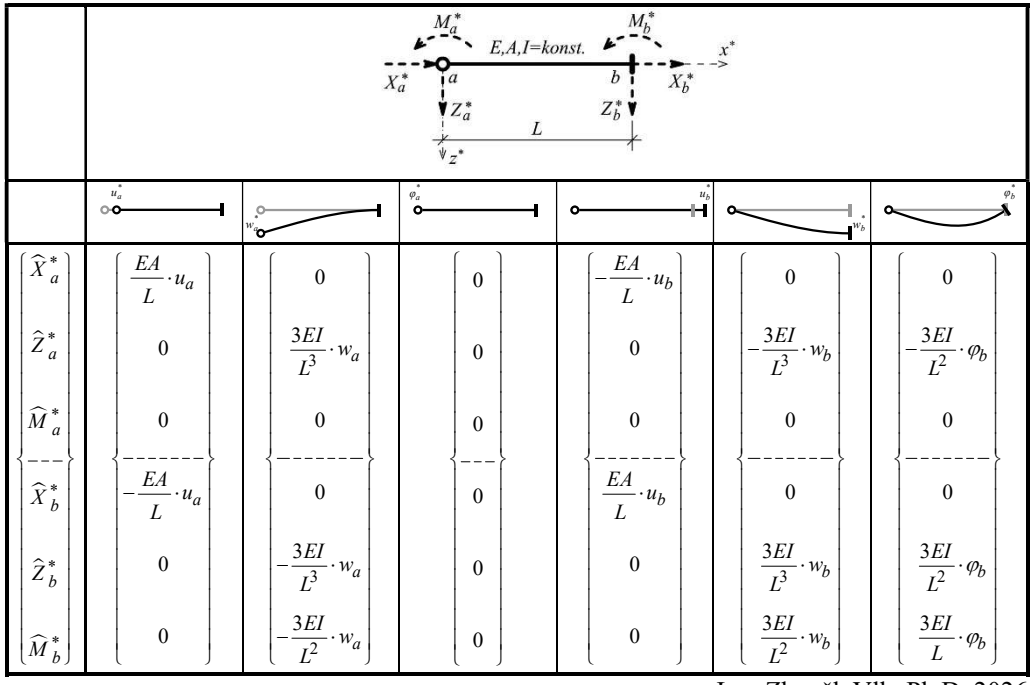
$$\begin{Bmatrix} \widehat{X}_a^* \\ \widehat{Z}_a^* \\ \widehat{M}_a^* \\ \hline \widehat{X}_b^* \\ \widehat{Z}_b^* \\ \widehat{M}_b^* \end{Bmatrix} = \begin{Bmatrix} \frac{EA}{L}\cdot u_a \\ 0 \\ 0 \\ \hline -\frac{EA}{L}\cdot u_a \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ \frac{12EI}{L^3}\cdot w_a \\ -\frac{6EI}{L^2}\cdot w_a \\ \hline 0 \\ -\frac{12EI}{L^3}\cdot w_a \\ -\frac{6EI}{L^2}\cdot w_a \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{6EI}{L^2}\cdot \varphi_a \\ \frac{4EI}{L}\cdot \varphi_a \\ \hline 0 \\ \frac{6EI}{L^2}\cdot \varphi_a \\ \frac{2EI}{L}\cdot \varphi_a \end{Bmatrix} + \begin{Bmatrix} -\frac{EA}{L}\cdot u_b \\ 0 \\ 0 \\ \hline \frac{EA}{L}\cdot u_b \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{12EI}{L^3}\cdot w_b \\ \frac{6EI}{L^2}\cdot w_b \\ \hline 0 \\ \frac{12EI}{L^3}\cdot w_b \\ \frac{6EI}{L^2}\cdot w_b \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{6EI}{L^2}\cdot \varphi_b \\ \frac{2EI}{L}\cdot \varphi_b \\ \hline 0 \\ \frac{6EI}{L^2}\cdot \varphi_b \\ \frac{4EI}{L}\cdot \varphi_b \end{Bmatrix}$$



$$\begin{Bmatrix} \widehat{X}_a^* \\ \widehat{Z}_a^* \\ \widehat{M}_a^* \\ \hline \widehat{X}_b^* \\ \widehat{Z}_b^* \\ \widehat{M}_b^* \end{Bmatrix} = \begin{Bmatrix} \frac{EA}{L}\cdot u_a \\ 0 \\ 0 \\ \hline -\frac{EA}{L}\cdot u_a \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ \frac{3EI}{L^3}\cdot w_a \\ -\frac{3EI}{L^2}\cdot w_a \\ \hline 0 \\ -\frac{3EI}{L^3}\cdot w_a \\ -\frac{3EI}{L^2}\cdot w_a \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{3EI}{L^2}\cdot \varphi_a \\ \frac{3EI}{L}\cdot \varphi_a \\ \hline 0 \\ \frac{3EI}{L^2}\cdot \varphi_a \\ 0 \end{Bmatrix} + \begin{Bmatrix} -\frac{EA}{L}\cdot u_b \\ 0 \\ 0 \\ \hline \frac{EA}{L}\cdot u_b \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{3EI}{L^3}\cdot w_b \\ \frac{3EI}{L^2}\cdot w_b \\ \hline 0 \\ \frac{3EI}{L^3}\cdot w_b \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix}$$



$$\begin{Bmatrix} \widehat{X}_a^* \\ \widehat{Z}_a^* \\ \widehat{M}_a^* \\ \hline \widehat{X}_b^* \\ \widehat{Z}_b^* \\ \widehat{M}_b^* \end{Bmatrix} = \begin{Bmatrix} \frac{EA}{L}\cdot u_a \\ 0 \\ 0 \\ \hline -\frac{EA}{L}\cdot u_a \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} -\frac{EA}{L}\cdot u_b \\ 0 \\ 0 \\ \hline \frac{EA}{L}\cdot u_b \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix}$$



$$\begin{Bmatrix} \widehat{X}_a^* \\ \widehat{Z}_a^* \\ \widehat{M}_a^* \\ \hline \widehat{X}_b^* \\ \widehat{Z}_b^* \\ \widehat{M}_b^* \end{Bmatrix} = \begin{Bmatrix} \frac{EA}{L}\cdot u_a \\ 0 \\ 0 \\ \hline -\frac{EA}{L}\cdot u_a \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ \frac{3EI}{L^3}\cdot w_a \\ 0 \\ \hline 0 \\ -\frac{3EI}{L^3}\cdot w_a \\ -\frac{3EI}{L^2}\cdot w_a \end{Bmatrix} + \begin{Bmatrix} 0 \\ 0 \\ 0 \\ \hline 0 \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} -\frac{EA}{L}\cdot u_b \\ 0 \\ 0 \\ \hline \frac{EA}{L}\cdot u_b \\ 0 \\ 0 \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{3EI}{L^3}\cdot w_b \\ 0 \\ \hline 0 \\ \frac{3EI}{L^3}\cdot w_b \\ \frac{3EI}{L^2}\cdot w_b \end{Bmatrix} + \begin{Bmatrix} 0 \\ -\frac{3EI}{L^2}\cdot \varphi_b \\ 0 \\ \hline 0 \\ \frac{3EI}{L^2}\cdot \varphi_b \\ \frac{3EI}{L}\cdot \varphi_b \end{Bmatrix}$$

Ing. Zbyněk Vlk, Ph.D. 2026