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The singularity study of spatial hybrid mechanisms based on screw theory

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In the right column after Fig. 8, two equations and the accompanying sentence were published incorrectly. They should read:

$$\left\{ \begin{array}{l} \sum F_x = 0 : (k_1 \cos \theta_1 + k_2 \cos \theta_2 + k_3 \cos \theta_3 \\ \quad + k_4 \cos \theta_4) \cos \beta + F_x = 0 \\ \sum F_y = 0 : (k_1 \sin \theta_1 + k_2 \sin \theta_2 + k_3 \sin \theta_3 \\ \quad + k_4 \sin \theta_4) \cos \beta + F_y = 0 \\ \sum F_z = 0 : (k_1 + k_2 + k_3 + k_4) \sin \beta + F_z = 0 \\ \sum M_z = 0 : [(a \sin \theta_1 + b \cos \theta_1)k_1 + (a \sin \theta_2 - b \cos \theta_2)k_2 \\ \quad + (-a \sin \theta_3 - b \cos \theta_3)k_3 \\ \quad + (-a \sin \theta_4 + b \cos \theta_4)k_4] \cos \beta + T_z = 0 \end{array} \right.$$

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where $\theta_i (i = 1, 2, 3, 4)$ denotes the angular coordinate of the projection line of the i th hybrid branch to the x -axis in the absolute coordinate system. The above equations can be transformed to:

$$AF_i = F$$

where

$$A = \begin{bmatrix} \cos \theta_1 & \cos \theta_2 & \cos \theta_3 & \cos \theta_4 \\ \sin \theta_1 & \sin \theta_2 & \sin \theta_3 & \sin \theta_4 \\ 1 & 1 & 1 & 1 \\ \left\{ \begin{array}{l} a \sin \theta_1 \\ +b \cos \theta_1 \end{array} \right\} & \left\{ \begin{array}{l} a \sin \theta_2 \\ -b \cos \theta_2 \end{array} \right\} & \left\{ \begin{array}{l} -a \sin \theta_3 \\ -b \cos \theta_3 \end{array} \right\} & \left\{ \begin{array}{l} -a \sin \theta_4 \\ +b \cos \theta_4 \end{array} \right\} \end{bmatrix}.$$

The online version of the original article can be found at
<http://dx.doi.org/10.1007/s00170-003-1934-1>.