

$$
\begin{aligned}
\vec{r}_{B / A}= & -0.8 \vec{K}+2 \vec{I}+(3.5-1) \vec{J}=2 \vec{I}+2.5 \vec{J}-0.8 \vec{k} \\
\vec{\Omega}= & \Omega_{x} \vec{I}+\Omega_{Y} \vec{J}+\Omega_{z} \vec{K}=\overrightarrow{\omega_{A B}} \\
v_{B} \vec{J}= & \overrightarrow{0}+\left(\Omega_{X} \vec{I}+\Omega_{Y} \vec{J}+\Omega_{z} \vec{k}\right) \times(2 \vec{I}+2.5 \vec{J}-0.8 \vec{k}) \\
& +23.2 \vec{J} \\
= & \left(-0.8 \Omega_{Y}-2.5 \Omega_{z}+23.2\right) \vec{I}+\left(0.8 \Omega_{X}+2 \Omega_{B}\right) \vec{J} \\
& +\left(2.5 \Omega_{X}-2 \Omega_{Y}\right) \vec{K}
\end{aligned}
$$

$\left.\begin{array}{l}\text { I: } \quad 0=-0.8 \Omega_{Y}-2.5 \Omega_{z}+23.2 \\ \vec{J}: v_{B}=0.8 \Omega_{x}+2 \Omega_{z} \\ \vec{K}: \quad 0=2.5 \Omega_{x}-2 \Omega_{Y}\end{array}\right\}_{\bigotimes}^{0} \overrightarrow{A F} \overrightarrow{A F} \cdot \vec{\Omega}=0$

$$
(2 \vec{I}-0.8 \vec{K}) \cdot\left(\Omega_{x} \vec{I}+\Omega_{y} \vec{J}+\Omega_{z} \vec{F}\right)=0
$$

$$
2 \Omega_{x}-0.8 \Omega_{z}=0
$$

Solution of Ep (1), (2), (3), 8(4) yields

$$
\begin{gathered}
V_{B}=18.56 \quad \Omega_{X}=3.2 \quad \Omega_{Y}=4 \quad \Omega_{Z}=8 \\
\vec{V}_{B}=18.56 \overrightarrow{\mathrm{~J}} \mathrm{~m} / \mathrm{R} \quad \vec{\omega}_{A B}=\vec{\Omega} \\
\vec{\omega}_{A B}=3.2 \vec{I}+4 \vec{J}+8 \vec{k} \mathrm{red} / \mathrm{R}
\end{gathered}
$$

