Congratulations! You passed!

Grade received 100% To pass 80% or higher

Go to next item

1. What is the dimension of the matrix adjoint representation $[\mathrm{Ad}_T]$ of a transformation matrix T (an element of $SE(3)$)? 1 / 1 point

- 3x3
- 4x4
- 6x6 (selected)

Correct
The adjoint representation $[\mathrm{Ad}_{T_{ab}}]$ of a transformation matrix T_{ab} can be used to change the frame of representation of a twist (or a screw), i.e., $\mathcal{V}_a = [\mathrm{Ad}_{T_{ab}}]\mathcal{V}_b$, so it must be 6x6.

2. A 3-vector angular velocity ω can be represented in matrix form as $[\omega]$, an element of $so(3)$, the set of 3x3 skew-symmetric matrices. Analogously, a 6-vector twist $\mathcal{V} = (\omega, v)$ can be represented in matrix form as $[\mathcal{V}]$, an element of $se(3)$. What is the dimension of $[\mathcal{V}]$? 1 / 1 point

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