

Here are the questions from [5.1 Designing a motion model - An overview - Quiz]

1. *Why may it be of interest to include the orientation of, say, a car in a state vector (make the statement which is NOT true)*

Optional Answers:

1. Information about the orientation may yield better predictions of the future positions of the car.
2. It is not possible to obtain a reasonable estimate of the position of the car (better than 10 meter accuracy) unless we know its orientation
3. In some cases, we may be interested in estimating the orientation of the object.

2. *Why is it often useful to discretize a time continuous model? (Mark the statement which is false)*

Optional Answers:

1. The computers that we use will introduce quantization error when they discretise our signals and it is therefore better that we do this ours
2. The discretized version provides a simpler model that we can use for prediction in our filters.
3. We obtain measurements at discrete times and it is sufficient to compute the predicted and posterior density at these time instances.

Thank You