

This is a great title

This is an even greater subtitle

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Problem 1*Mutual Information in Multimodal Systems*`problem-label`

[(a)]

Use the definition of the mutual information equation:

to explain how mutual information quantifies the reduction in uncertainty about Y when you know X_1 and X_2 .

[label = ()]Under the assumption that X_1 and X_2 are conditionally independent given Y , the joint mutual information

is simply the sum of the individual mutual information terms $I(X_1;Y)$ and $I(X_2;Y)$. This result indicates that the inform

Notice that the partial derivative and integral are smaller when used in a sentence compared with when you're wor

Problem 2*Your title*`problem-label-2` *This is an example problem taken from [?]:*

[(a)]

Prove the following

[label = ()] $\langle p'|x|\alpha\rangle = \hbar p' \langle p'|\alpha\rangle. \quad \langle \beta|x|\alpha\rangle = \int p' \phi_\beta^*(p') \hbar p' \phi_\alpha(p'), \text{ where } \phi_\alpha(p') = \langle p'|\alpha\rangle \text{ and } \phi_\beta(p') = \langle p'|\beta\rangle \text{ are momentum}$

...

I use the package `physics` which provides a great variety of commands for common operations and symbols. For in