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Filtering for Joint Angle Estimation on a Soft Robot

We are currently using an HTC Vive for joint angle estimation on King Louie (one of our soft robots). This works well; however, we are just accepting the measurement as the robot's configuration rather than using it as a measurement update to get a state and covariance estimate. For our project, we are going to implement at least one filtering technique on King Louie's joint angles. We are still trying to decide which filter to implement (part of our project will be comparing the relative merits of the EKF, UKF, and Monte Carlo localization in our specific application and selecting one). If we have a really easy time getting one filter to work on King Louie, we plan to implement one of the other algorithms for comparison. Right now, we are getting joint angle estimates at 300 Hz. We would like to get filtered joint angles at about this rate if possible. At the end of our project, we hope to have a working filter for King Louie's joint angles.