



**Figure 3—figure supplement 1. Speed-Accuracy Tradeoff with a Torque Driven Model.** Predicted movement duration to a target in a center-out reaching task when varying the target size with our torque driven model. The x-axis is the width of the target in the direction of the movement, which varies from 0.02 m (index of difficulty: 3.90) to 0.2 m (index of difficulty: 0.09). The vertical bars are one standard deviation from the mean. We see that the model's mean predictions are in close agreement with Fitts' law ( $R^2 = 0.88$ ). Qualitatively, we see that unlike our muscle-based model (see Fig. 3C), the results with the torque driven model do not clearly predict the increase in movement duration variance with more severe task constraints. Both the predicted means and standard deviations are not statistically correlated with the experimental data in Fig. 3A.