

Revolutionary Neurally-Controlled Prosthetic Arm

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This research is part of a four year collaborative project with DARPA and Johns Hopkins University to develop a revolutionary, neurally-controlled, prosthetic arm. We focused on designing sensors that could be incorporated into a prosthetic fingertip and provide tactile feedback. The most recent design uses an exotic material, QTC (quantum tunneling composite), to convert forces applied to the sensor into an electric signal. The specifications of the project require about 20 sensors per fingertip or 60 outputs with the current design. Therefore, we focused on reducing the data set using Matlab or an analog circuit to provide meaningful and manageable information to the prosthetic wearer. Presently, the prototype is being calibrated to output reproducible results.

