

An sEMG model of the human biceps brachii muscle has been implemented and populated with experimentally obtained motor unit parameters. Of particular interest are the differences between type I and type II muscle fibre characteristics. Needle electrode studies reveal that in addition to different action potential conduction velocities, the different fibre types have specific ranges of recruitment thresholds and firing-frequencies. In order to assess the effect of these parameters with force, simulations were conducted over a range of force levels from 30 – 80% of the maximum voluntary contraction (MVC). In addition, experiments were conducted on human participants to verify the accuracy of the implemented model to experimental results.