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Electrically stimulated contractions of Vorticella convallaria DEEPENDRA KANTHA, DAVID VAN WINKLE, Department of Physics and Center for Materials Research and Technology (MARTECH), Florida State University — The contraction of *Vorticella convallaria* was triggered by applying a voltage pulse in its host culturing medium. The 50V, 1ms wide pulse was applied across platinum wires separated by 0.7 cm on a microscope slide. The contractions were recorded as cines (image sequences) by a Phantom V5 camera (Vision Research) on a bright field microscope with 20X objective, with the image size of 256 pixels $\times$ 128 pixels at 7352 pictures per second. The starting time of the cines was synchronized with the starting of the electrical pulse. We recorded five contractions of each of 12 organisms. The cines were analyzed to obtain the initiation time, defined as the difference in time between the leading edge of the electrical pulse and the first frame showing zooid movement. From multiple contractions of same organism, we found the initiation time is reproducible. In comparing different organisms, we found the average initiation time of 1.73 ms with a standard deviation of 0.63 ms. This research is supported by the state of Florida (MARTECH) and Research Corporation.

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