

Abstract Submitted  
for the MAS20 Meeting of  
The American Physical Society

**Tracking insect population densities and activities using an entomological stand-off optical sensor**<sup>1</sup> ADRIEN GENOUD, New Jersey Inst of Tech, GREGORY WILLIAMS, Rutgers University, Center for Vector Biology, BENJAMIN THOMAS, New Jersey Institute of Technology — The most prevalent method for the survey of insect populations is based on trapping the specimens, followed by laboratory analysis. While this provides detailed information on insect characteristics such as species or sex, it suffers from important limitations: poor temporal resolution and small number of observed insects. Optical sensors constitute an exciting alternative to collect entomological data as they can observe a number insects orders of magnitude larger with a temporal resolution in the minute range. In this contribution, the results of a field campaign using a stand-off optical sensor is presented and discussed. The population density of flying insects was continuously measured for a period of three months which is, to the best of our knowledge, the longest continuous recording of insect population densities. A portable weather station allowed for the detailed study of the circadian rhythm and activities of insect populations with meteorological events and atmospheric conditions. Furthermore, with recordings starting during late Summer and ending in Fall, the collected data provides some information on the seasonal change of insect population in Secaucus New Jersey.

<sup>1</sup>Research reported in this contribution was supported by the National Institutes of Health under award number R03AI138133. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

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Date submitted: 30 Oct 2020

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