**IEEE Photonics Meeting Minutes: Wed., 11/21/19, held at Moore Auditorium in Caltech**

*I. Meeting Agenda*

Dinner and Refreshments: 5:30 to 6:05 PM

Chapter Announcements: 6:05 to 6:15 PM

Presentation: 6:15 to 7:05 PM

Q&A: 7:05 to 7:15 PM

*II. Meeting Attendees*

Twenty-five people attended the IEEE Photonics meeting. Attendees ranged from graduate students in nearby universities, including Caltech, to engineers from various companies in the region.

*III. Talk Abstract*

Dr. Jewell’s Abstract: Significant advances in instrument technologies are enabling exciting new science in astrophysics, planetary science, and heliophysics. For example, JPL’s 2D-doping is a band structure engineering process that results in near- 100% internal quantum efficiency and ultrastability, and can be applied to virtually any silicon-based detector architecture. When paired with advanced UV coatings,

2D-doped detectors exhibit record performance. In this talk I will discuss these technologies and their application to the Star-Planet Activity Research CubeSat (SPARCS), currently in development. SPARCS will be a 6U CubeSat whose mission will be to observe M stars in two ultraviolet (UV) bands—SPARCS far UV (S-FUV: 153-171 nm) and SPARCS near UV (S-NUV: 260-300 nm). SPARCS would be the first mission to provide time-dependent spectral slope, intensity and evolution of M dwarf stellar radiation; measurements that are critical to deciphering observations of planetary atmosphere from missions such as JWST.