

Abstract Submitted
for the TSF16 Meeting of
The American Physical Society

Comparison of Geosynchronous Satellites Spectral Signatures During Glint Season DANIEL WEISZ, United States Air Force Academy — Cadets in the Department of Physics at the United States Air Force Academy are using the technique of slitless spectroscopy to analyze the spectra from geostationary satellites during glint season. The equinox periods of the year are particularly favorable for earth-based observers to detect specular reflections off satellites (glints), which have been observed in the past using broadband photometry techniques. Three seasons of glints were observed and analyzed for multiple satellites, as measured across the visible spectrum using a diffraction grating on the Academy's 16-inch, f/8.2 telescope. It is clear from the results that the glint maximum wavelength decreases relative to the time periods before and after the glint, and that the spectral reflectance during the glint is less like a blackbody. The glint spectra are also quantitatively compared to different blackbody curves and the solar spectrum by means of absolute differences. Our initial analysis appears to indicate a potential method of determining relative power capacity. These results are consistent with the presumption that solar panels are the predominant source of specular reflection.

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Date submitted: 26 Sep 2016

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