AMERICAN ASTRONOMICAL SOCIETY

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	Call Signs: S2983 and S3018
Modification of Authorization for the SpaceX	)	
NGSO Satellite System	)	File No. SAT-MOD-20200417-00037
	)	

Comments of the American Astronomical Society
On the Petition of Viasat, Inc. Dated 12/22/2020

While we appreciate Viasat's drawing attention to the light pollution and problems posed to the astronomical sciences by satellite constellations, the AAS notes that constellations at lower altitudes are less damaging to dark-sky astronomy[1]. We withhold comment on the topic of orbital debris, but as far as astronomical observations are concerned, lower altitude is a better option. Lowering the orbital altitudes of low-Earth orbit satellites to 600 km or less is one strategy to reduce interference with ground-based optical astronomy. Satellites in these orbits appear brighter, but are in sunlight for less of the night, which is one of the leading benefits to science. At higher altitudes, satellites are in sunlight for a larger fraction of the night, and their decreased apparent brightness is counterbalanced by the fact that they are more in focus and move more slowly across the sky, thus depositing more light per pixel during scientific observation. Additionally, SpaceX has made modifications to their Starlink satellites that have lowered the apparent brightness of their satellites. We hope that all large LEO-sat constellations employ these and other mitigation techniques. The issue of access to dark skies affects professional astronomers, as well as amateur astronomy and many cultural sky traditions including wayfinding. We support consideration by the Commission of light pollution and impacts to optical astronomy, and we appreciate Viasat's support in this regard.

Sincerely,

Paula Szkody

Dr. Paula Szkody
AAS President
7 January 2021

[1] SatCon1 Report (https://aas.org/satellite-constellations-1-workshop-report)