



	Measurement Requirements of Future Martian Aurora	
Targeted line	Oxygen forbidden green emission line at 557.7 nm for both discrete and diffuse aurora CO <sub>2</sub> + FDB prompted emission band at 430 nm for diffuse aurora Lyman alpha 121 nm for proton aurora	
Altitude Range	80-200 km@557 nm (80 km~ 0.1 Pa on Mars) 20-200 km@430 nm (20 km ~100 Pa on Mars)	
Spectral Range	557.7 nm with 3-4 nm BPF (to avoid 551 nm night airglow) 370-500 nm for 430 nm	
Sensitivity	10 Rayleigh for the lower limit (5-10 times better than MAVEN/IUVS). ~100,000 Rayleigh for the upper limit (Aurora <~7 kR; Night airglow ~245 kR).	
Spatial Res.	0.75° (10-binning) ~10-20 km at 250 km in the nadir-geometry and ~5 km vertical resolution in the limb geometry from the distance 1,000 km.	
FOV	>~200-300 km at 250 km alt. Cover both the nadir and the limb geometries in its FOV. 90° might be good enough(TBD).	
Temporal Res.	1 second (more than 10-times better than that expected from EMM/EMUS 1-2 min.)	