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Resolved Lyman-alpha to probe LyC escape at high redshift

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Determining the amount of ionizing radiation from early galaxies is key to understanding the Epoch of Reionization. One of the most robust proxies for Lyman-continuum (LyC) emission is the peak separation of Lyman-alpha (Lya) emission. To achieve such measurements a resolution of R> 5000 is ideal. MAVIS will detect Lya to z>7.2 with the added bonus of AO resolving Lya blobs and compact LAEs at high redshift. MAVIS can be used to target bright galaxies that ionize their own surrounds as well as proximate LAEs that lie within the ionized bubble of a QSO, providing an environment for the full Lya profile to propagate without severe attenuation due to the IGM. The latter can be used to estimate the escape fraction of Lyman-continuum photons from lower luminosity galaxies that are the likely drivers of reionization.

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