

ART. IX.—*Photographs of the Spectra of Venus and  $\alpha$  Lyræ.*  
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SINCE the spring of 1872 I have been making photographs of the spectra of the stars, planets and Moon, and particularly, among the stars, of  $\alpha$  Lyræ and  $\alpha$  Aquilæ with my 28-inch reflector and 12-inch refractor. In the photograph of  $\alpha$  Lyræ, bands or broad lines are visible in the violet and ultra-violet region unlike anything in the solar spectrum. The research is difficult and consumes time, because long exposures are necessary to impress the sensitive plate, and the atmosphere is rarely in the best condition. The image of a star or planet must be kept motionless for from ten to twenty minutes, and hence the driving clock of the telescope is severely taxed.

During last summer I obtained good results, and in October took photographs of the spectrum of Venus, which show a large number of lines. I am now studying these pictures, and have submitted them to the inspection of several of my scientific friends, among others Professors Barker, Langley, Morton and Silliman. There seems to be in the case of Venus a weakening of the spectrum toward H and above that line, of the same character as that I have photographically observed to take place in the spectrum of the Sun near sunset.

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