

Abstract Submitted
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The Arcminute Morphology of the WIM Toward the Local Perseus Arm of the Galaxy PHILLIP NELSON, Roanoke College, JOHN SIMONETTI, Virginia Tech, BRIAN DENNISON, UNC at Asheville — We used the Virginia Tech Spectral-Line Imaging Camera (SLIC) to image the warm ionized interstellar medium (WIM) toward the Local Perseus Arm. We obtained a series of images, each of which is 10° -wide, and has arcminute-resolution. The images show three basic types of structures — compact clouds with diameters greater than several degrees, those that are 1° or less in diameter, and extended filaments which span several degrees in length but have thicknesses of only a few tens of arcminutes. The data show that $[\text{S II}]/\text{H}\alpha$ ratios are, on average, nearly six times higher in the filaments than in the clouds, which indicates that emission from collisionally excited, singly-ionized S^+ is the dominant emission source within the filaments. In clouds, the lower $[\text{S II}]/\text{H}\alpha$ values are evidence that the $\text{H}\alpha$ recombination line of photoionized hydrogen dominates.

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