Andres N. Mejia* (am8248@bard.edu), 65-36 Metropolitan Avenue, New York, NY 11379. On The Structure of The $C_2$ Spider.

The spiders of Kuperberg provide a diagrammatic encoding the combinatorics of the representation theory of $U_q(\mathfrak{g})$, where $\mathfrak{g}$ is a Lie algebra. We restrict our attention to the $C_2$ spider, which reflects the representation category of $\mathfrak{sp}(4)$. A description of this combinatorial object is given in terms of generators and relations for diagrams. We extend results known for other spiders and give a more explicit description of these diagrammatic web spaces. Moreover, triple clasped spaces are explored when $q$ is a root of unity, recovering aspects of a closely related modular tensor category. (Received September 26, 2017)