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**Joshua Fallon, Kirsten Hogenson\*** (khogenson@coloradocollege.edu), **Lauren Keough, Mario Lomelí, Marcus Schaefer** and **Pablo Soberón**. *On the maximum rectilinear crossing number of spiders.*

The maximum rectilinear crossing number of a graph  $G$  is the maximum number of crossings in a good straight-line drawing of  $G$  in the plane. In a good drawing any two edges intersect in at most one point (counting endpoints), no three edges have an interior point in common, and edges do not contain vertices in their interior. A spider is a subdivision of  $K_{1,k}$ . In this talk, I will present both upper and lower bounds for the maximum rectilinear crossing number of spiders. While there are not many results on the maximum rectilinear crossing numbers of infinite families of graphs, our methods can be used to find the exact maximum rectilinear crossing number of  $K_{1,k}$  where each edge is subdivided exactly once. This is a first step toward calculating the maximum rectilinear crossing number of arbitrary trees. (Received September 03, 2018)