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**Kirk Boyer, Paul Horn\*** (paul.horn@du.edu) and **Mario Lopez**. *Combinatorics of ray-sensor networks*.

Imagine an intruder, attempting to infiltrate a point, and with their path blocked by a number of rays. A single ray cannot block the intruder, as the intruder can simply walk around, but a pair of rays can. The pairs of blocking rays give rise to a graph, and this graph carries information on the sensor network. In this talk, we discuss properties of these graphs (giving a structural 'rigidity' result, which can be used, for instance, to study which graphs can arise as such 'barrier graphs'). Related questions also lead to some interesting problems in combinatorial geometry, which we also discuss. (Received February 24, 2016)