1077-05-136 **Rosalie J. Carlson*** (rcarlson@hmc.edu), Harvey Mudd College, 340 E Foothill Blvd, Claremont, CA 91711, **Stephen Flood** (sflood@nd.edu), University of Notre Dame, Notre Dame, IN 46556, **Kevin W. O'Neill** (koneill@hmc.edu), Harvey Mudd College, 340 E Foothill Blvd, Claremont, CA 91711, and **Francis Edward Su** (su@math.hmc.edu), Department of Mathematics, Harvey Mudd College, Claremont, CA 91711. *A Turán-type Problem for Circular Arc Graphs.*

A circular arc graph is the intersection graph of a collection of connected arcs on the circle. We consider a Turán-type problem for circular arc graphs: for n arcs, if m and M are the minimum and maximum number of arcs that contain a common point, what is the maximum number of edges the circular arc graph can contain? We establish a sharp bound that, given a fixed minimum m arcs that contain a common point, can be used to show that if the circular arc graph has enough edges, there must be a point that is covered by at least M arcs. In the case $m = 0$, we recover results for interval graphs established by Abbott and Katchalski (1979). We suggest applications to voting situations with interval or circular political spectra. (Received July 29, 2011)