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Felix Lazebnik* (fellaz@udel.edu), Department of Mathematical Sciences, University of Delaware, Newark, DE 19716, and **Shuying Sun** (shuying@udel.edu), Department of Mathematical Sciences, University of Delaware, Newark, DE 19716. *The Girth of Some Algebraically Defined Graphs.*

Let q be a prime power and k be an integer greater than 1. Bipartite graphs $D(k, q)$ were introduced by Lazebnik and Ustimenko in 1995, and found many applications. It is known that their girth (the length of a shortest cycle) is at least $k + 5$ for k odd, and at least $k + 4$ for k even. It is conjectured that these lower bounds are the exact values. In this talk we discuss the recent progress on this conjecture. (Received August 12, 2016)