1024-05-178 **Vasyl Dmytrenko** (vdmytr@math.temple.edu), Philadelphia, PA 19122, **Felix Lazebnik*** (lazebnik@math.udel.edu), Newark, DE 19716, and **Raymond Viglione** (rviglion@cougar.kean.edu), Union, NJ 07083. *On the Isomorphisms of Monomial Graphs.*

Let q be a prime power, $\mathbb{F}_q$ be the field of q elements, and k, m be positive integers. A bipartite graph $G = G_q(k, m)$ is defined as follows. The vertex set of G is a union of two copies P and L of two-dimensional vector spaces over $\mathbb{F}_q$, with two vertices $(p) = (p_1, p_2) \in P$ and $[\,l\,] = [\,l_1, l_2\,] \in L$ being adjacent if and only if $p_2 + l_2 = p_1^k l_1^m$. We prove that for each q, graphs $G_q(k, m)$ and $G'_q(k', m')$ are isomorphic if and only if $q = q'$ and the multisets $\{\gcd(k, q-1), \gcd(m, q-1)\}$ and $\{\gcd(k', q-1), \gcd(m', q-1)\}$ are equal. The proof is based on counting the number of complete bipartite subgraphs in the graphs. (Received January 08, 2007)