## 1056-22-203

## Lisa Carbone, Leigh Cobbs<sup>\*</sup> (cobbs<sup>Q</sup>lvc.edu) and Scott Murray. Fundamental domains for congruence subgroups of $SL_2$ in positive characteristic.

When groups act on graphs, quotient "graphs of groups" are produced. One attempt at constructing infinite families of expander graphs tried to find graphs of groups for congruence subgroups of  $\Gamma = PGL_2(\mathbb{F}_q[t])$ . There was an error, which we explain and repair. We use the method of ramified coverings to construct graphs of groups for congruence subgroups of  $SL_2(\mathbb{F}_q[t])$  and give explicit examples. We thus provide new families of graphs whose level 0 - 1 subgraphs potentially have the expansion properties claimed previously. (Received August 14, 2009)