1126-05-139   **Joshua E Ducey*** (`duceyje@jmu.edu`) and **Ian Hill**. *The critical group of the Kneser graph*
$KG(n,2)$. Preliminary report.

Consider the graph with vertex set consisting of the 2-subsets of an n-element set. A pair of 2-subsets are adjacent when they are disjoint. This is the Kneser graph $KG(n,2)$, and is a nice example of a strongly regular graph.

An interesting invariant that can be attached to any finite graph is a finite abelian group known as the critical group (or sandpile group). Some interesting properties of the graph are reflected in the structure of this group; in particular, the order of the critical group is the number of spanning forests of the graph.

In this talk we will compute the critical group of the graph $KG(n,2)$ by applying some representation theory of the symmetric group. We will also give a combinatorial interpretation of the generators of a direct sum decomposition of the critical group. (Received January 09, 2017)