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Eduardo Cotilla-Sanchez, Mahantesh Halappanavar and Emilie Hogan*

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As the electrical grid increases in size there is focus on reducing the size of the simulation space. One way that this can be done is to group generators together that have similar behavior. In this talk we will describe three techniques to cluster generators based on spectral clustering and modularity clustering, both forms of graph clustering, and k-means with a genetic algorithm. We will compare our methods on two data sets. This work is done as a collaboration between Pacific Northwest National Laboratory and Oregon State University for the Department of Energy's Advanced Scientific Computing and Research program. (Received September 17, 2013)