1151-05-296 **Galen Dorpalen-Barry*** (`dorpa003@umn.edu`), **Cyrus Hettle**, **David Livingston**, **Jeremy Martin**, **George Nasr**, **Julianne Vega** and **Hays Whitlach**. *A positivity phenomenon in Elser's Gaussian-cluster percolation model.*

In the 1980s, Veit Elser introduced a random graph model for percolation. Studying this model combinatorially naturally leads to the consideration of a collection of numbers $\mathsf{els}_k(G)$ called *Elser numbers* of a graph G. In his original paper, Elser conjectured that for an simple graph G and nonnegative integer k, the Elser number was nonnegative. By interpreting the Elser numbers as Euler characteristics of certain simplicial complexes, we prove and strengthen Elser's conjecture. (Received August 20, 2019)