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Carrie E. Finch-Smith* (finchc@wlu.edu). *Sierpiński and Riesel numbers: computations and coverings*. Preliminary report.

In 1956, Riesel showed that there are infinitely many odd positive integers k such that $k \cdot 2^n - 1$ is composite for all positive integers n . In honor of Riesel's work, such a k is known as a Riesel number. Sierpiński numbers are similar, with the difference that $k \cdot 2^n + 1$ is composite for all positive integers n . In this talk, we discuss the use of coverings of the integers to construct Sierpiński numbers and Riesel numbers. In addition, we also consider modifications of covering methods to produce Sierpiński or Riesel numbers with special properties. (Received September 25, 2017)