1125-11-2832 **Wilson Harvey*** (`harveywa@math.sc.edu`) and **Michael Filaseta**. *Covering Subsets of the Integers.*

A covering system of the integers is a finite system of congruences where each integer satisfies at least one of the congruences. Two questions in covering systems posed by Erdős have been of particular interest in the mathematical literature. First is the minimum modulus problem, whether the minimum modulus of a covering system of the integers with distinct moduli can be arbitrarily large, and the second is the odd covering problem, whether a covering system of the integers with distinct moduli can be constructed with all moduli odd. We consider these and similar questions for subsets of the integers, such as the set of prime numbers, the Fibonacci numbers, and numbers that are the sums of two squares. For example, we show that there does exist an odd covering of the integers that are the sums of two squares, and that the minimum modulus problem can be answered in the affirmative for the Fibonacci numbers. (Received September 20, 2016)