Meeting: 1003, Atlanta, Georgia, AMS Contributed Paper Session

1003-11-130 **Douglas E Iannucci*** (diannuc@uvi.edu), Division of Science and Mathematics, University of the Virgin Islands, 2 John Brewers Bay, St. Thomas, WA 00802, and **Alexia S Mintos** (alexiamintos@hotmail.com), Division of Science and Mathematics, University of the Virgin Islands, 2 John Brewers Bay, St. Thomas, VI 00802. *On consecutive integers with equal sums of distinct prime divisors.* Preliminary report.

For a positive integer n, let $P(n)$ denote the sum of the distinct prime divisors of n. Thus $P(1) = 0$, and, if n has the unique prime factorization $n = \prod_{i=1}^{k} p_1^{a_1}$, then $P(n) = \sum_{i=1}^{k} p_i$. We call the pair $(n, n+1)$ of consecutive integers a *Ruth–Aaron pair of the second kind* if $P(n) = P(n+1)$. In this instance, the number of prime components of n, and that of $n+1$, are of opposite parity. We show that $(5, 6)$, $(24, 25)$, and $(49, 50)$ are the only such pairs whose members contain one or two components. We also investigate pairs of the form $(4pq, rs)$ where p, q, r, and s are distinct primes. (Received August 10, 2004)