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**Curtis N Cooper\*** ([cooper@ucmo.edu](mailto:cooper@ucmo.edu)), Dept. of Math. & Comp. Sci., University of Central Missouri, Warrensburg, MO 64093. *The  $k$ -Zeckendorf Array.*

Let  $k \geq 2$  be an integer. We define the  $k$ -generalized Fibonacci sequence, the  $k$ -Zeckendorf representation of a positive integer, and the  $k$ -Zeckendorf array. When  $k = 2$  these definitions are the Fibonacci sequence, the Zeckendorf representation of a positive integer, and the Zeckendorf array defined by Kimberling. The 3-Zeckendorf array is

1	2	4	7	13	24	44	81	149	274	504	...
3	6	11	20	37	68	125	230	423	778	1431	
5	9	17	31	57	105	193	355	653	1201	2209	
8	15	28	51	94	173	318	585	1076	1979	3640	
10	19	35	64	118	217	399	734	1350	2483	4567	
12	22	41	75	138	254	467	859	1580	2906	5345	
14	26	48	88	162	298	548	1008	1854	3410	6272	
16	30	55	101	186	342	629	1157	2128	3914	7199	
18	33	61	112	206	379	697	1282	2358	4337	7977	
	⋮										

We prove that each of these  $k$ -Zeckendorf arrays is an interspersion. (Received September 20, 2010)