The paper is devoted to the domatic polynomials $D(G, x)$ of complete graphs K_n and path graphs P_n.

It is easy to see that the coefficient of x^k in the domatic polynomial of K_n is equal to the number of partitions of an n-element set into k subsets (the Stirling number of the second kind, $S(n, k)$). Thus, the domatic polynomial $D(K_n, x)$ is known as the Touchard (or Bell) polynomial. Properties of the polynomial $D(K_n, x)$ presented in Theorem 2.1 – 2.3 and Theorem 2.13 follow trivially from this definition.

Furthermore, Theorems 2.5, 2.11, and 2.12 are special cases of Lemma 1 from [L. H. Harper, Stirling behavior is asymptotically normal, Ann. Math. Statist. **38** (1967), 410–414] which states that all roots of $D(K_n, x)$ are real, distinct, and nonpositive. An upper bound on the absolute values of the roots of $D(K_n, x)$, sharper than one in Theorem 2.7, was recently proven in [I. Mező and R. B. Corcino, The estimation of the zeros of the Bell and r-Bell polynomials, Appl. Math. Comput. **250** (2015), 727–732].

Finally, a recent preprint [S. Alikhani, D. Bakhshesh and N. Ghanbari, Counting the number of domatic partition of a graph, arXiv:2407.00103, (2024)] shows that the domatic polynomial of the path is $D(P_n, x) = x + f_{n-1}x^2$, where f_n is the n-th Fibonacci number. All statements in the paper concerning the domatic polynomials of path graphs follow directly from this result, except for Theorem 3.4 which is wrong.

Therefore, all results presented in this paper are either trivial or already covered in previous research. Thus, I do not recommend it for publication in Siberian Electronical Mathematical Reports.