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Editorial

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In this issue of MATCH, two papers [1, 2] are concerned with the product of the Wiener and Harary indices, W and H, respectively. In paper [1] it is conjectured that their product satisfies

$$W(S_n)\cdot H(S_n) < W(T_n)\cdot H(T_n) < W(P_n)\cdot H(P_n) \tag{1}$$

by any n-vertex tree T_n, different from the star (S_n) and the path (P_n). In paper [2] a complete solution of this conjecture is provided.

In fact, the authors of [2] were the first to completely resolve the conjecture, write it down, and submit for publication. However, several other scholars earlier obtained analogous results on parts of the conjecture. Since all this happened very fast, and involved colleagues all over the world, it is worth recording their names and timings.

- June 27: Ivan Gutman sends conjecture (1) to colleagues worldwide.
- June 28: Akbar Ali (Saudi Arabia) proves the left-hand side of (1).
- June 28: Leyou Xu, a student of Bo Zhou (China), proves the left-hand side of (1).
- June 28: Andrey Dobrynin (Russia) finds a counterexample to the right-hand side of (1).
- July 2: Žana Kovijanić Vukićević (Montenergo) proves the left-hand side of (1).

- July 6: Batmend Horoldagva (Mongolia) proves the left-hand side of (1).
- July 9: Paper [2] by three Chinese authors is submitted to MATCH.
- July 16: Slobodan Filipovski (Slovenia) proves the left-hand side of (1).
- July 17: Peter Dankelmann (South Africa) finds a counterexample to the right-hand side of (1).
- This *Editorial* was completed on July 20, and therefore more results along these lines may be expected.

In addition to the above, a colleague (whose name will not be disclosed) claimed to have found counterexamples to the left-hand side of conjecture (1), whereas another has offered a proof of the general validity of its right-hand side.

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Let this note stays as a document of the present-days vigorous activity in Mathematical Chemistry and Chemical Graph Theory.

References

[1] I. Gutman, B. Furtula, I. Redžepović, On topological indices and their reciprocals, *MATCH Commun. Math. Comput. Chem.* **91** (2024) 287–297.

[2] L. Li, X. Li, W. Liu, Note on the product of Wiener and Harary indices, *MATCH Commun. Math. Comput. Chem.* **91** (2024) 299–305.