

## On transmission irregular graphs — starlike and double starlike trees and long pendent paths

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**Abstract.** The transmission of a vertex in a connected graph is the sum of its distances to all the other vertices. A graph is transmission irregular (TI) when all of its vertices have mutually distinct transmissions. In an earlier paper, Al-Yakoob and Stevanović [1] gave the full characterization of TI starlike trees with three branches. Here, we improve these results by using a different approach to provide the complete characterization of all TI starlike trees and all TI double starlike trees. We subsequently implement the aforementioned conditions in order to find several infinite families of TI starlike trees and TI double starlike trees. Besides that, we disclose five families of unicyclic graphs with two pendent paths whose members are TI under certain conditions. As a direct consequence, we demonstrate the existence of TI chemical graphs of almost all even orders, thereby resolving a problem recently posed by Xu, Tian and Klavžar [2].

**Keywords:** graph distance; transmission irregular graph; starlike tree; double starlike tree; pendent path.

### References

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