

# Review of: "Negativity, zeros and extreme values of several polynomials"

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**Potential competing interests:** No potential competing interests to declare.

The main purpose of this paper is to study some properties (the negativity, zeros, and extreme values) of some univariate polynomials which are related to each other.

The main method is to use the Descarte's rule of signs.

Although the idea to prove is not new, I am surprised it is not used before to obtain the result, for example, by Professor Chao-Ping Chen.

I think the problem is interesting, but perhaps, the authors need to revise and modify the manuscript before publishing it.

Below is some of my questions during reading this manuscript.

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+/- For the first proof of Prop. 1, I understand the idea is to observed the properties (1), (2), (3), and (4) (page 4) from the long computations. However, these long computations do not convince me about the correctness of the proof. Probably, these computations only give us the intuition about the correctness of the Prop; an intuition for the second proof?

+/- I also checked some computations in the first proof of Prop thanks to Maple, it seems the authors have done the computations carefully with no mistakes.

+/- The second proof of Prop.1 convinces me; in my opinion, this proof is correct.

+/- I do not understand why the Figure 1 gives the item (2) in Remark 3. Perhaps, the authors should clarify this more in detail.

Proof of Prop 2.

+/- The coefficients of  $J(-t)$  are -43; 1308; -2448; 1183. We have three changes of signs, hence we have three negative zeros or less but an even number of zeros. However, the authors claim that  $J(t)$  has at most one negative zero. Am I wrong here?