PROBLEMS AND DISCUSSIONS

To “the First Application of Legendre Transforms to the Surface Tension of Solids”¹

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In a recent paper of Marichev [1], he applied his favorite method (“Interdisciplinary Expert Panel”), this time for the criticism of my paper [2]. As the author of [1] claims, his consideration of my articles “proposed a new approach to the surface tension of condensed matter”. Leaving aside the issue of “a new approach” and inaccuracies in the interpretation of classical thermodynamics, I am compelled to specify that the central point of criticism [1] is a supposed quotation from my article [2], “... originally derived from false fundamental equations that are identically zero, because they are complete Legendre transforms.”

However, this quote is totally *absent in my article*, and the words “complete Legendre transforms” are not even mentioned anywhere in [2]. Actually, the complete Legendre transform is used in my other paper [3], but ignored by the author of [1], although it was published before the submission of [1]. By the way, recently, the notion “complete Legendre transform” has been used in my paper [4] and review [5].

Thus, the criticism [1] is invalid, since it is based on a false quotation and, therefore, should not mislead the reader.

REFERENCES

1. Marichev, V.A., On the first application of Legendre transforms to the surface tension of solids, *Prot. Met. Phys. Chem. Surf.*, 2015, vol. 51, no. 2, p. 313.
2. Gutman, E.M., Response to V.A. Marichev’s reply (Surf. Sci. 605(2011)2097) to the comments written by E.M. Gutman (Surf. Sci. 605(2011)1923), *Surf. Sci.*, 2012, vol. 606, p. 772.
3. Gutman, E.M., Comment on “Historical development of theories of the electrochemical double layer” by B.B. Damaskin and O.A. Petrii, *J. Solid State Electrochem.*, 2012, vol. 16, p. 2283.
4. Gutman, E.M., Comment on “On the ‘simple check’ of electrocapillarity” by A.Y. Gokhshtein, *J. Solid State Electrochem.*, 2014, vol. 18, p. 2061.
5. Gutman, E.M., Theoretical problems in solid electrocapillarity, *J. Solid State Electrochem.*, 2014, vol. 18, p. 3217.

¹ The article is published in the original.