Correlation of Clusters: Partially Truncated Correlation Functions and Their Decay.

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Partially truncated correlation functions (PTCF) of infinite continuous systems of classical point particles with pair interaction are investigated. We derive Kirkwood-Salsburg (KS)-type equations for the PTCF and write the solutions of these equations as a sum of contributions labelled by certain special graphs (*forests*), the connected components of which are tree graphs. We generalize the method introduced by Minlos and Pogosyan [1] in the case of truncated correlations. These solutions make it possible to derive strong cluster properties for PTCF which were obtained earlier for lattice spin systems. The report is based on the article [2].

References

[1] R. A. Minlos, S. K. Pogosyan. Estimates of Ursell functions, group functions, and their derivatives, *Theor. Math. Phys.*, **31** (1977), # 2, 408–418.

[2] T. C. Dorlas, A. L. Rebenko, B. Savoie. Correlation of Clusters: Partially Truncated Correlation Functions and Their Decay. *Correlation of Clusters: Partially Truncated Correlation Functions and Their Decay.* Preprint, arXiv:1811.12342, 2018.