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A COMBINATORIAL NOTE ON MAYERS' CLUSTER INTEGRAL

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Abstract

We give a short survey on the cluster integral and the virial expansion of an imperfect gas: The cluster integral b_l in the Mayers' condensation theory is expressible as a sum of products of irreducible integrals β_k . The coefficients of each product of irreducible integrals in a cluster integral are derived by a graph theoretical argument using the Prüfer codes. A derivation of the virial expansion of an imperfect gas is given.

Key Words : *Imperfect gas, Virial expansion, Prüfer codes*

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