

About some consequences from the virial equation of state

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Abstract

It is shown that the virial equation of state taking into account only first, second and third virial coefficients gives the relation between values of pressure, temperature and second virial coefficient at the critical point that is valid for many real substances. It is also shown that the additional conditions of equalities to zero of the third and fourth partial derivatives of the pressure with respect to volume at constant temperature at critical point give considerable improvement of the predictions of the virial equation of state for critical point.