

Which future for Van der Waals type equations of state?

mercredi 7 juin 2023 11:30 (1 heure)

Despite the criticism that the Van der Waals theory behind them is too simple, despite the many attempts to replace them with more sophisticated models, despite their well-documented shortcomings, it is a fact that the cubic equations of state (CEoS) are still around, and in industry in particular. Derived from the seminal work of Van der Waals, CEoS appear indeed as reference models for people from industry working on the simulation and design of processes involving from non-associating to weakly-associating compounds. Since the 1950's, people working on CEoS have gained experience on this class of models and a number of pertinent improvements have been proposed all through the years to overcome or reduce their shortcomings.

Through this presentation, we will show how the potential of cubic equations of state for describing mixture properties has been boosted by decades of progress.

In this study, we present some arguments to convince the reader that further development of this family of models is necessary and that promising results are expected in return.

With Francisco Paes, Jean-Noël Jaubert.

Orateur: PRIVAT, Romain (Université de Lorraine)