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Phase equilibria: Apparatus, difficulties, data and its consistency is the time spent worth it?

Accurate phase equilibria data are very important for the design of many chemical processes. However, such experiments are very expensive mainly because of the costs associated with the type of apparatus and time consuming. Due to the large amount of necessary data from pure components to binary, ternary or multicomponent mixtures, it's almost impossible to have all the industry needs for data covered. For this reason, theoretical models are important tools to obtain the necessary data much faster. However, to retrieve information from these models, we need to input some accurate experimental data. But what does this accurate data mean? Many researchers find that an error of 5% in their data is acceptable, but such an error can cost millions to an industry. We intend to give an experimental point of view of a working phase equilibria flow apparatus. We will talk about the apparatus, the costs associated with it, the difficulties in operating such apparatus, how to retrieve good data and what does the consistency tests say about it. We will give a general overview on other types of apparatus and compare with ours. We will talk about the systems that are being studied and the future ones.

Biography

A F Cristino has completed her PhD in Technological Chemistry by the Faculty of Sciences of the University of Lisbon in 2014 and since then has worked as a Postdoctoral collaborator at CQE – Centro de Química Estrutural at the same university. In 2015 she began to work as Assistant Professor in the Department of Chemistry and Biochemistry at the same university assisting in the chairs of Thermodynamics and Transport Processes and Chemistry. She has published papers in reputed journals and has made many presentations in international conferences.

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