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Compressibility and compactivity of bi-dispersive many-particle conglomerations (liquid and granular mixtures)

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We propose to use the apparatus of Kirkwood-Buff theory [1] in combination with Carnahan-Starling model [2] and Mansoori [3] equations of state together with the relevant phenomenological information, which obtained from the direct observations, to describe compressibility and compactivity of bi-dispersive many-particle conglomerations (liquid [4] and granular mixtures [5]). By use of above mentioned approach we found the possibility to describe substantiate empirical data in the full range of values of the volume (or molar) fraction. A good coincidence between theoretical and relevant experimental data has been outlined.

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Primary authors: Prof. GERASYMOV, Oleg (Odesa State Environmental University); Mr SPIVAK, Andrii (Odesa State Environmental University); SIDLETSKA, Liudmyla (Odesa State Environmental University)

Presenter: Mr SPIVAK, Andrii (Odesa State Environmental University)

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