

عنوان مقاله:

Numerical Procedures for Calculating Sound Speed of Natural Gas

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Natural gas (NG) is a mixture of 21 elements and widely used in industries and domestics. Knowledge of its thermodynamics properties is essential for designing appropriate process and equipments. In this study, the detailed numerical procedures for computing sound speed of naturalgas mixtures have been discussed based on AGA8 equation of state (EOS) and thermodynamics relationships. To validate the procedures, the numerical values have been compared with available measured values. The validations show that the average absolute percent deviation (AAPD) forspeed of sound calculations is 0.133%. AAPD values indicate that the numerical procedure could predict sound speed of natural gas with very high accuracy. The results also show that sound speed calculation based on .AGA8 is more accurate than the cubic EOSs

کلمات کلیدی:

Natural gas, thermodynamic properties, AGA8 equation of state, numerical procedures,calculating speed of sound

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