DESCRIPTION

File name: *viscosityCO2.mexw32*

This program allows the estimation viscosities of CO_2 using the empirical equation developed by Altunin and Sakhabetdinov (1972). In this expression, viscosity is a function of density and temperature.

The file is an adaptation to 32-bit Matlab of a program originally developed in C language. The program was recompiled and can be used in Matlab as long the 2011 version or more recent is chosen. Older Matlab versions were not tested but may work as well.

INSTRUCTIONS

1) Be sure that the file "viscosity*CO2.mexw32*" is visible in the *Current Folder* section of Matlab.

2) In command window, call the density function by tipping: viscosity*CO2(T, ρ)*
    Where:
    a. T is the temperature, in K
    b. ρ is the CO_2 density, in g cm^{-3}

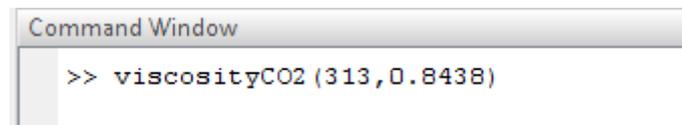3) Viscosity results are given with the following units: Pa s

EXAMPLE

Imagine you want to calculate the viscosity of CO_2 at 200 atm and 313 K, where CO_2 density is 0.8438 g cm^{-3}.

1) Be sure that the file "viscosity*CO2.mexw32*" is visible in the *Current Folder* section of Matlab.
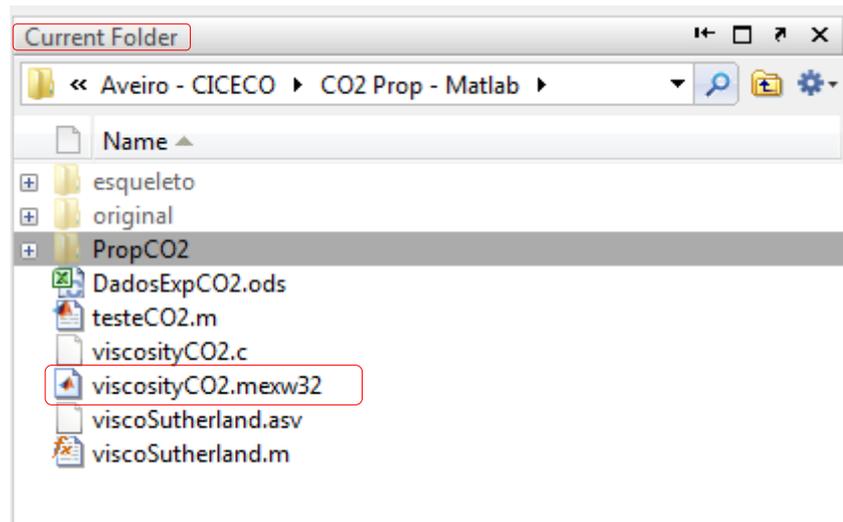
2) In command window, call the density function by tipping: *viscosityCO2(T, ρ)*

3) Density results are given with the following units: Pa s