function f = fSSR2(a,xm,ym)

sums = 0;

R = 8.31434;

T = 298.15;

VIL = 25;

rhoIL = 0.9;

MWIL = 18;

Vg = 30-VIL;

L = 4;

k = (8\*R\*T\*VIL\*rhoIL)/(pi^2\*Vg\*MWIL);

for n=0:55

sums = sums + (1/(2\*n+1)^2\*exp((2\*n+1)^2\*pi^2\*a(2)\*xm)/(4\*L^2)-1);

end

yp = (k/a(1))\*sums;

f = sum((ym-yp).^2);

14401 data points for x (time in seconds) and y (pressure). Pressure converted from MPa to bar by multiplying by 10. Pressure then converted to

Ln(P/Po)

to satisfy the left side of the equation (yp in the code). x and the converted y are called by fminsearch as follows:

>> fminsearch(@fSSR2, [1600,20000000000000],[],x,y)

Exiting: Maximum number of function evaluations has been exceeded

- increase MaxFunEvals option.

Current function value: Inf

ans =

1.0e+013 \*

0.0000 2.0000

\*\*1600 (bar) and 2 x 10^13 (cm^2/second) are the H and D initial guesses for CO2 and water mixtures, which is the data set used to test the code.