Distributed Activation Energy (DAE) Model:

Please refer to the .mph file attached with the mail.

We consider E to be constant (please refer the model .mph file) but in actual case E changes as f(E).

Instantaneous volatile fraction follows the below equation.





At t=0, V=0;

Where V\*=0.35

k0=1.07\*1010 S-1

E0= 204624 J/mol

=39396 J/mol

T0=300 K

Rg=8.314 kj/mol

Objective.

To find out instantaneous volatile release one needs to solve the time integral. The plot attached with the mail shows that volatile release is location dependent too.

1. How the volatile release profile differs when the DAE model is used.