

1067-65-1302

J. B. Collins* (jbcollie2@gmail.com), 3133 J Aileen Dr., Raleigh, NC 27606. *A new junction model for gas flow through a splitting pipe.*

Computation of transport over complicated network domains can be simplified using network models. These models involve one-dimensional transport equations, coupled with junction models for the multi-dimensional portions of the network. Junction models can be a large source of error in network problems. In this work, we consider gas flow through a pipe network. A junction model based on numerical data is derived and compared to known junction models. The accuracy of the model with two-dimensional data is examined and the effect of junction geometry on this accuracy is shown. (Received September 20, 2010)