



## Generalized Fluid System Simulation Program, Version 5.0 Educational: Supplemental Information for NASA/TM-2011-21647: Supplement

By -

Bibliogov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 84 pages. Dimensions: 9.7in. x 7.4in. x 0.2in. The Generalized Fluid System Simulation Program (GFSSP) is a finite-volume based general-purpose computer program for analyzing steady state and time-dependent flow rates, pressures, temperatures, and concentrations in a complex flow network. The program is capable of modeling real fluids with phase changes, compressibility, mixture thermodynamics, conjugate heat transfer between solid and fluid, fluid transients, pumps, compressors and external body forces such as gravity and centrifugal. The thermo-fluid system to be analyzed is discretized into nodes, branches, and conductors. The scalar properties such as pressure, temperature, and concentrations are calculated at nodes. Mass flow rates and heat transfer rates are computed in branches and conductors. The graphical user interface allows users to build their models using the point, drag and click method; the users can also run their models and post-process the results in the same environment. The integrated fluid library supplies thermodynamic and thermo-physical properties of 36 fluids and 21 different resistancesource options are provided for modeling momentum sources or sinks in the branches. This Technical Memorandum illustrates the application and verification of the code through 12 demonstrated example problems. This...

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