

Verification and Validation Processes

The ultimate goal of verification and validation (V&V) is to provide a measure of confidence in the results of a simulation tool. Through verification we determine if the algorithms are implemented correctly, and identify conditions when the algorithms lose accuracy or fail. Validation indicates whether the models we have chosen are adequate for the scenarios we want to simulate.

In practice, the simulation tools are continually modified and updated, and V&V must be an intrinsic part of the code development process rather than distinct, intermittent activities. We are developing a software tool, Tampa, to run and analyze suites of test problems in an automated way; this allows us to capture the effort spent developing the tests. Some of the analysis tools we develop become a part of the VerificationSoftware Toolkit (VST) and this reduces the time code developers spend on testing.