

SystemC AMS Day 2011

Industry Adoption of the SystemC AMS Standard

BLOCK 1: SYSTEMC AMS FOR SYSTEM INTEGRATORS

Modelling and Simulation of a Fibre Optical Gyro System with SystemC AMS

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For competitive and efficient development and production of mobile navigation systems simulations are required. They must be able to simulate components of various physical domains (optical, electrical, mechanical), different kinds of signals (analogue, mix-signal, digital) and variable abstraction levels in a reasonable time. This ambitious task – in consequence of high complexity of navigation systems – must be solved with the support of SystemC AMS. In this article the modelling and simulation of an inertial navigation system (a fibre optical gyro system) with SystemC AMS is presented. In this process details of good modelling of those systems will be given and shown how the preliminary modelling is verified with the first results. As a result of this article a virtual prototype of an optical gyro sensor is available (demonstrator), which can be compared with the real system.