

# **Auto-BAHN: Software for Near Real-Time GPS Orbit and Clock Computations**

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The Auto-BAHN project is to incorporate a near-real time capability into the GPS software, BAHN, currently in operational use for IGS related activities at ESOC/ESA. As a first step the deterministic least-squares batch processor in BAHN has been replaced by a Kalman Filter. This will be followed by introducing an extended Kalman Filter facilitating continuous computations of GPS satellite orbits and clocks. In this presentation the underlying methodology behind the Kalman Filter approach will be introduced as required to handle GPS phase data from a large network of global tracking stations. In addition, details will be presented about the replacement of (global and arc-dependent) deterministic parameters by stochastic procedures. Numerical results will be given of comparisons of GPS orbits and clocks computed from both the batch and Kalman Filter approaches.