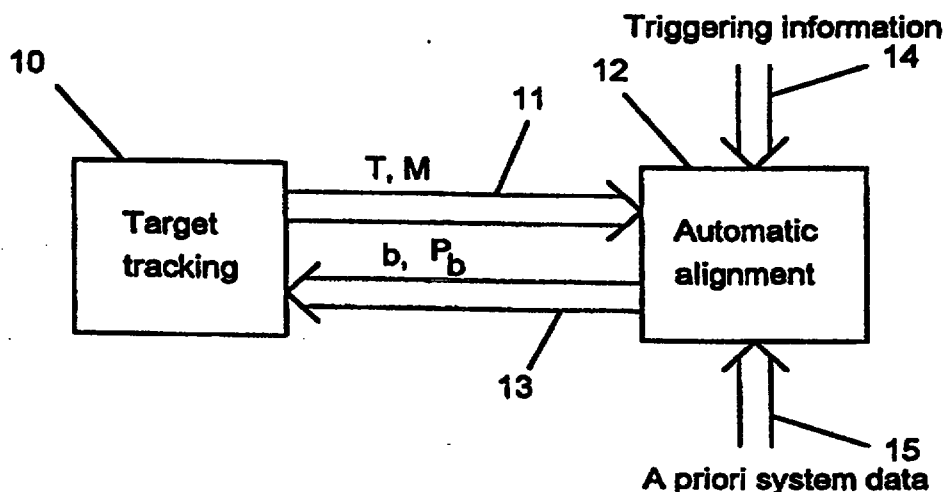




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(54) Title: **BIAS ESTIMATING METHOD FOR A TARGET TRACKING SYSTEM**

(57) Abstract

The present invention is in general related to automatic alignment in multi-sensor target tracking. The process of the invention repeatedly generates estimates for sensor bias errors (b) by minimising a function, given on one hand by the magnitude of the discrepancy between measurements (M) and a measuring model, where the measuring model is a function of the unknown target location and unknown bias parameters, and on the other by the bias parameters and their predetermined statistical distributions (15). In a preferred embodiment of the present invention, the minimising step is performed by linearising components of the function around an approximate target position (normally obtained from the tracker (10)) and around nominal (typically zero) bias errors, and the function is subsequently minimised with respect to target positions as well as to the bias parameters (b). In addition, possible time dependence of the bias parameters are modelled by the incorporation of process noise.