Estimation Problems In Hybrid Systems

A guide to how diverse sensors can be integrated to create enhanced controllers and estimators in a variety of situations.Recent developments in sensor and processor sophistication have created a need for effective estimation and control algorithms for hybrid, nonlinear systems. This book presents an effective, flexible family of estimation algorithms that can be used in estimating or controlling a variety of nonlinear plants. Several applications are studied, including tracking a manoeuvring aircraft, automatic target recognition, and the decoding of signals transmitted across a wireless communications link. The authors begin by setting out the necessary theoretical background and then develop a practical, finite-dimensional approximation to an optimal estimator. Throughout the book, they illustrate theoretical results by simulation of control and estimation in real-world hybrid systems, drawn from a variety of engineering fields. The book will be of great interest to graduate students and researchers in electrical and computer engineering. It will also be a useful reference for practising engineers involved in the design of estimation, tracking or wireless communications systems. EAN/ISBN : 9780511035357 Publisher(s): Cambridge University Press Format: ePub/PDF Author(s): Sworder, David D. - Boyd, John E.

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