

Synchronization in Wireless Sensor Networks – Parameter Estimation, Performance Benchmarks, and Protocols.

Serpedin, Erchin and Qasim M. Chaudhari. *Synchronization in Wireless Sensor Networks – Parameter Estimation, Performance Benchmarks, and Protocols*. New York, NY: Cambridge University Press, 2009, 232 pp. \$85.00 (Hardbound).

Wireless sensor networks are set to play a key role in a wide range of civilian and military applications, with tiny sensors connected through wireless links performing various sensing, computing, communication, and control tasks in highly distributed systems. This book presents a critical element in the deployment of wireless sensor networks: the process of synchronization. It summarizes the most important clock synchronization protocols proposed for wireless sensor networks, with special emphasis placed on deriving efficient clock offset estimation schemes and performance benchmarks. Graduate students of electrical and computer engineering and computer science will find this a valuable resource, as will engineers who are interested in designing efficient clock synchronization algorithms and improving the performance of existing synchronization protocols.

Erchin Serpedin is currently an Associate Professor in the Wireless Communications Laboratory at Texas A & M University, where he joined after receiving his Ph.D. in Electrical Engineering from the University of Virginia, Charlottesville, in 1999. His research interests lie in the areas of statistical signal processing and wireless communications. Dr. Serpedin has served as Associate Editor for numerous journals including *IEEE Transactions on Wireless Communications*, *IEEE Transactions on Signal Processing*, *IEEE Transactions on Communications*, *IEEE Signal Processing Letters*, and *IEEE Communications Letters*.

Qasim M. Chaudhari was awarded his Ph.D. in Electrical Engineering from Texas A & M University in 2008 and is currently an Assistant Professor at Iqra University, Islamabad, Pakistan. Before entering academia, he worked with the SoC Tools Group of Communications Enabling Technologies, Islamabad, and later with the HSDPA performance test team of Qualcomm Inc., San Diego. His research interests include digital communications, estimation and detection theory in general and channel estimation and synchronization in wireless sensor networks in particular.