Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Recent Advances in Access and Sensor Networking

Prof. Martin Reisslein
Arizona State University (ASU), Tempe

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Cauerstraße 7; Raum E 1.12

Diskussionsleitung: Prof. Dr.-Ing. R. Schober

In this presentation, I will give an overview of recent advances in access and sensor networking in my group at ASU. In the area of access networks involving an optical fiber component, we have recently completed extensive studies on passive optical networks (PONs) as well as fiber-wireless (FiWi) access networks. Presently, we are examining the combination of high-speed PON access networks with slower-speed digital subscriber line (DSL) networks.

In the area of purely wireless access networks, we have analyzed the connection establishment in LTE-A networks. We found that for access systems with a long timeout and high barring probability, the numbers of user equipment (UE) nodes participating in random access contention in successive slots tend to Poisson process, irrespective of the arrival process (e.g., even for Markov Modulated Poisson Process arrivals).

In the area of sensor networks, we are working on developing a complete video sensor network solution ranging from the sensor node platform to the application layer streaming protocol. I will briefly outline a novel Wireless Sensor Node Platform (WSNP) approach to Dynamic Adaptive Streaming over HTTP (DASH).