



Kalman-Filtering and Target Tracking

Dr.-Ing. Markus Bühren

(Driver Assistance Systems Development, Daimler AG, Sindelfingen)

After attending this lecture, the students shall know the meaning of Kalman filtering and target tracking in fields like driver assistance systems and autonomous driving. They shall understand the principles of the linear Kalman filter and its nonlinear variants. Further, the students shall be able to apply Kalman filtering and methods of gating and data association to a real measurement data problem and to design a target tracking system.

- **Kalman-Filtering**
 - Linear/Extended Kalman filter, Unscented Kalman filter
 - Interacting multiple model and multiple-hypothesis filters
- **Target Tracking**
 - Measurement-to-track-association
 - Measurement and system models
 - Design of a target tracking system

Time: Tuesday, 8:00 - 11:15 h, biweekly

Timetable:	2015-10-13	2015-11-24	2016-01-12
	2015-10-27	2015-12-08	2016-01-26
	2015-11-10	2015-12-15	2016-02-02 *

* alternative date, only if necessary

Examination: Oral examination, February/March 2016

Room: Pfaffenwaldring 47, Room 2.282 (ISS seminar room)

At least five students must participate in order that the lecture will be held.
Therefore, please, register via e-mail: mail@ISS.uni-stuttgart.de