Systems Credit points											
	Duration	Frequer	ncv								
6 CP	1 semester	every y	-								
PD Dr. Wolfgang Koch											
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Dr. Felix Gova	ers										
Programme		Mode	Semest	ter							
_	er Science	Optional	$\lfloor \                                   $								
For challenging state estimation tasks, algorithms which enhance					ance						
the situational awareness by fusing sensor information are											
inevitable. Nowadays it has become very popular to improve the performance of systems by linking multiple sensors. This implies some challenges to the sensor data fusion methodologies such as sensor registration, communication delays, and correlations of estimation errors. In particular, if the communication links have limited bandwidth, data reduction techniques have to be applied at the sensor sites, that is local tracks have to be computed. Once recieved at a fusion center (FC), the tracks then are fused to reconstruct a global estimate. In this lecture, methodologies to a achieve a distributed state estimation are considered. Among these are tracklet fusion, the Bar-Shalom-Campo					e the						
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MA-INF 3310 – Introduction to Sensor Data Fusion - Methods											
and Applications											
		oup size	h/week	Workload[h]	CP						
Lecture		60	2		2.5						
Exercises		30	2	· ·	3.5						
Oral exam (graded)											
(6 )											
Power Point (net graded)											
W. Koch: "Tracking and Sensor Data Fusion: Methodological											
Framework and Selected Applications", Springer, 2014.											
D. Hall, CY. Chong, J. Llinas, and M. L. II: "Distributed Data											
) Hall C-V (	Chong I II	inge and	M T. II.	"Distributed I	Data						
	Dr. Felix Govar Programme M. Sc. Compute For challenging the situational nevitable. Now performance of some challenges tensor registrate estimation error imited bandwing the sensor situation achieve a construct a const	Dr. Felix Govaers  Programme  M. Sc. Computer Science For challenging state estimation situational awareness by nevitable. Nowadays it has performance of systems by some challenges to the sense sensor registration, communications are computed at the sensor sites, that is left to a achieve a distributed some challenges are tracklet from the formula, the Federated Kalleistributed Kalman filter at Mathematical derivation of mathematical results on est cracklet fusion, the Bar-Sharkalman Filter, naive fusion the least squares estimate, Decorrlated fusion, product the Recommended: At least 1 cm and Applications  Teaching format Gracklet fusions  Teaching fusi	Programme  M. Sc. Computer Science  Mode Optional For challenging state estimation task the situational awareness by fusing s nevitable. Nowadays it has become performance of systems by linking m some challenges to the sensor data for sensor registration, communication of estimation errors. In particular, if the imited bandwidth, data reduction to the the sensor sites, that is local track Once recieved at a fusion center (FC to reconstruct a global estimate. In the two a achieve a distributed state estime Among these are tracklet fusion, the formula, the Federated Kalman Filter distributed Kalman filter and the lead Mathematical derivation of algorithm mathematical results on estimation to tracklet fusion, the Bar-Shalom-Came Kalman Filter, naive fusion, the dist the least squares estimate, Accumula Decorrlated fusion, product represent Recommended: At least 1 of the follow BA-INF 3310 – Introduction to Sense and Applications  Teaching format  Group size  Lecture  60 Exercises  30  F = face-to-face teaching; S = indep Oral exam  Successful exercise participation  Power Point W. Koch: "Tracking and Sensor Data  W. Koch: "Tracking and Sensor Data  Property of the sensor data  Mode Optional Optional Teaching in task  Group size  Group size  Feaching format  Group size  Feaching format  Optional Teaching in die Sensor Teaching format  Optional Sensor Teaching in die Sensor Teaching i	Dr. Felix Govaers  Programme  M. Sc. Computer Science  Optional  Cor challenging state estimation tasks, algorithes ituational awareness by fusing sensor informeritable. Nowadays it has become very popular formance of systems by linking multiple sensor registration, communication delays, and estimation errors. In particular, if the communimited bandwidth, data reduction techniques at the sensor sites, that is local tracks have to conce recieved at a fusion center (FC), the traction acceptance of a distributed state estimation are sometimated. In this lecture, and the least square Mathematical derivation of algorithms, applications and the least square stimate on estimation theory. Tracklet fusion, the Bar-Shalom-Campo formula (Salaman Filter, naive fusion, the Bar-Shalom-Campo formula (Salaman Filter, naive fusion, the distributed Kalman Filter, naive fusion, the fusion fusion fusion fusion fusion fusion fus	Or. Felix Govaers  Programme M. Sc. Computer Science M. Sc. Computer Science Optional Optiona						