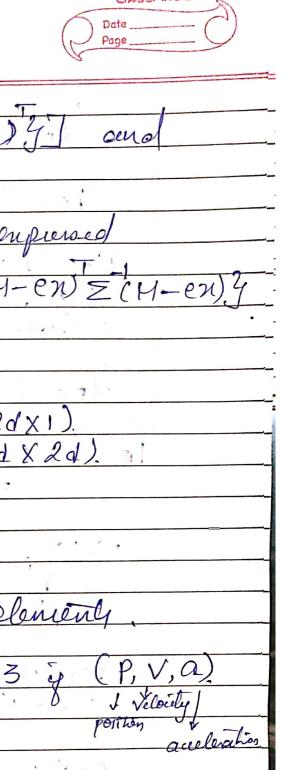
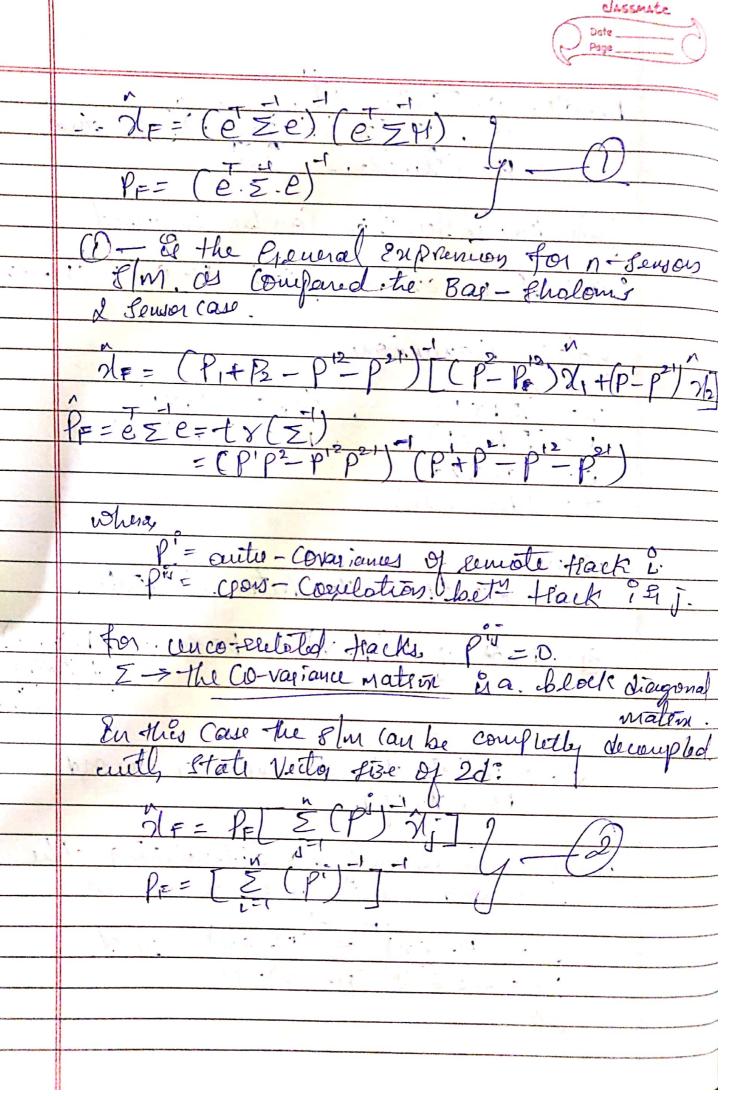
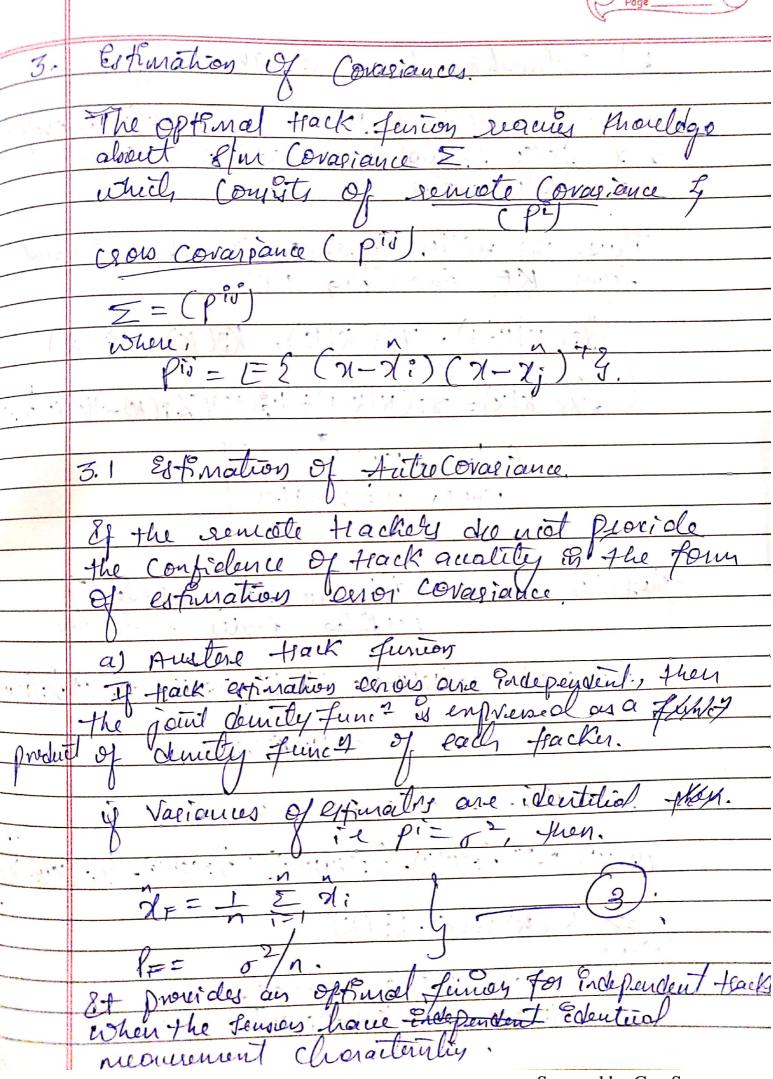
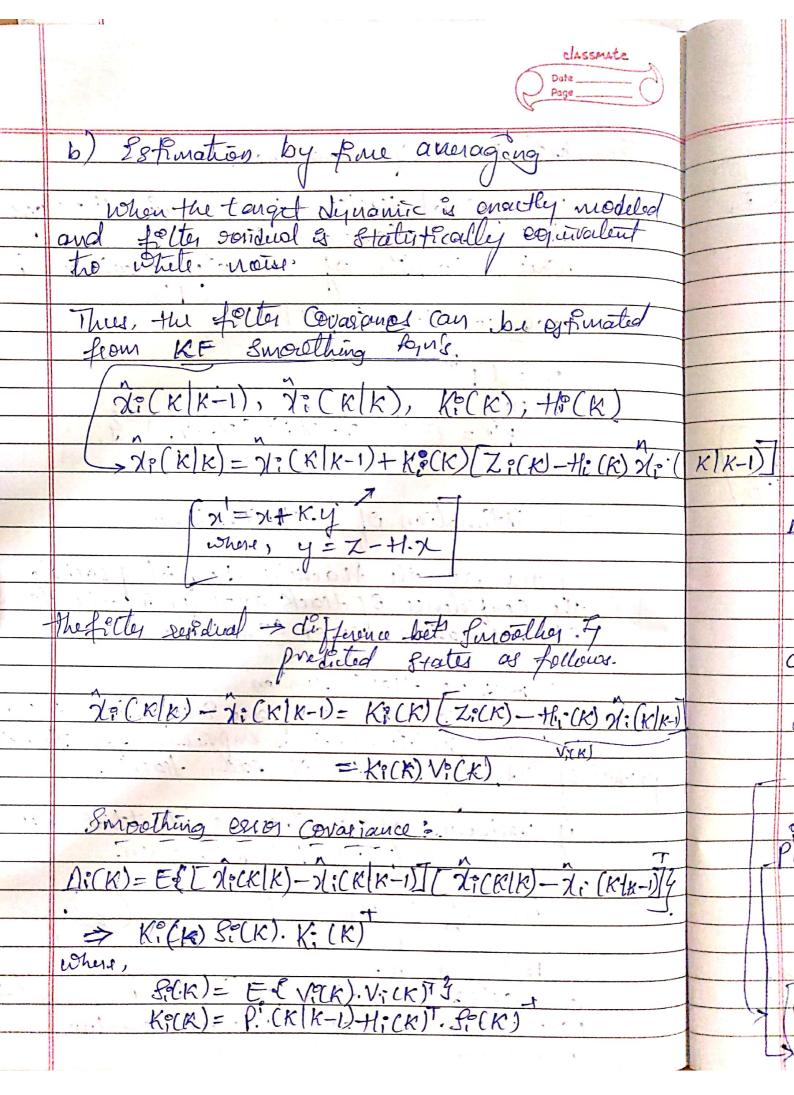
Track- tre-Track Lesson. Desiration of oppinal Track fusion. I, (KK), No (KK), _ No (KK) => le mote for torget a(K) Observed by n sensons. The oppinal ferrior is a Conditional mean given the frack estimate & the correspond of corresponds DE (KK)= EX N(K) 210, Po, P=1,2,-ng. 1- 7 forsed estimate. P= -> " estimates Covariance. > individual, tack estimate Conepond g Covagiance of Pridulino for Simplicity of derivation, assume that the posterior probably venily function & of the standard normal. in f(n/n)= P[(n-2) | 0 F) The posterior density of (x x;) is proportional. De f (71-21, 71-72, --, 71-21m) which 29 Oskelthood function onpressed by 4 d enps-1 (21-21, 21-212, -2-21,) Z(x-71, 21-212)



Denvote, C=[I,I,--I], n T ==[E{(n-n)}(n-n)] joint density function (an be enpursed as: f(H-ex) x emp {-1 (H-en) Z (H-en) matern diamension P== (2d x 2d). Z = (2dn x2dn) 2 -> Pindicates the diamonjion of co-ord. > can be obtained by differentially likelihood funt wort x

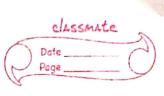






	A second
	we got,
	sick). Kick) = P(K(K-1).+Pi(K)
, ,	
·	= 1°(K) = P'(K K-1)- Hi(K). Kr(K)
	I smaethis ceros Covariance.
	Préduted Corresiance ->
	P(K(K-1) = (K:H:) A:(K);
K-1)	where, D. CK) is computed by fine ameraging.
	Dick)=1 > [X; Gili) - X; (ili-1) [X; (ili)-1] K. i=K
	Mick = 1 > [dig() - Ki () 1 -1) [xi ()]
	1: (i(i-1))
	C) Recuestive Estimation
	LIAM RF egns, Ovariance Update of precion
	one Computed by.
	P'(K/K)= (I-KiHi) P'(K/K-1) (I-KiHi)+KiRiKi
	P(K(K)= (T-KiHi) + (K/K-1)(L-K,TI) = XININI
	P(K+1(K)= 4;(K) P(K K)-+;(K)+L;(K) Q;(K)L;(K)
	H-> Roman Gay.
	H-> Meoruseinent matous.
	P'=(I-KH)P S From KF
	P=F-P-F+9- Rang

	d) S8 Firmation by Steady State Conditions
	. Empose steady state conditions the & &
	P(CK+1) K+1) = P(K/K). and.
	P(K+1/K) = P'(K/K-1)
	the steady state Covariance Converges the constant matrin
	constant matein.
	\mathcal{L}_{1} \mathcal{L}_{2} \mathcal{L}_{3}
	P (K+1/k) = 0 0 000
	P'(K+1/k) = P. AT 1/B ² T ³ /B. T ³ /B. T ² (20+B) 2B.
10.5	Q: -> prous nouse matin :
	:Covariana.
	T-> Sampling time.
	al & B -> Emosthing Gain.
N.	Julianenas qui.
	(Dvasjance.
	3-2 Es Pination of crow- availation (Pi)
. • 1	Total entirely
	Degrame glin:
744	X: (K+1) = fo X: (K) + L: G: (K)
35	Process nouse.
	IC(K)= H: XE(K) + No(K)
-	しァ リーマーガン



ceor Lovariance bett Lenson!
P'(K+1/K)=F,(K)P(K/K) + J, (K)+L, G;L;
Pe oco noise Corbinaire
P"(K K)= (I-KiHi) P"(K K-1)(I-Kj-Hj)
3-3 Track fusion methout cros Coragiance (pro)
a) Bas - Shalom method-
The state of the s
Fused flus track & Covariance one enpressed by:
enjorabel By
P(KK) X (KK)-P(KK-1)-X (KK-1)
= \(\begin{array}{c} \begin{array}{c} \cdot \begin{array}{c} \cdot \cdo
and.
 P(K(K) - P(K K-1) = Z [P(K K) - P(K K-1)]
 h) Pepudo meorurement method.
 This method is an inverse operation that Coming
b) Preudo meorurement method. This method is an inverse operation that Coming a target estimate back ty Sensos meorurement
 $K(K)^{+}$ [$\chi(K K) - \chi(K K-1)$] + $H\chi(K K-1)$, where $\chi(K)^{+}$ \longrightarrow pseudo Enverse.
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