Table session 5b, exercise 8

Component	**Before corrections**	**Before corrections**	**Model**
	Absolute error observed *theoretical*	Absolute error observed *theoretical*	*(description)*
(Session n.and exercise)	Pseudorange error observed *theoretical*	Pseudorange error observed *theoretical*	
Error due to ionosphere delay (p5a,3a)	[4 : 20] *[2-10]*FO*	50% *[1-5]*FO*	model `klob.f` a0,a1,a2,a3 b0,b1,b2,b3 (nav. message)
	[4 : 20] *[2-10]*FO*	50% *[1-5]*FO*	
Error due to troposphere delay (5a, 3a)	[2 : 18] *2*FO*	10% *0.2 *FO*	depending on receiver Example of a simple model: $T = 2.4/sin(elev)$
	[2 : 18] *2*FO*	10% *0.2*FO*	
Error due to relativistic correction (orbit eccentricity) (p5b, 3a)	[-5 : 5] *< 13*	mm-cm	$rel = 2rv/c =$ $= \frac{\sqrt{\mu\, a}}{c}\, e\, sinE$
	[-5 : 5] *< 13*	mm-cm	
Error due to instrumental delays of the satellites (TGD) (P5a, 5a)	[-1 : 0.8] ———	mm	Calibrated on Earth and monitorized by C.S. (nav. message)
	[-1 : 0.8] ———	mm	
Error due to the clock offset of the satellites (S/A=off) (p4b, 3a) (p5a, 6a) (p6a,9)	[-20 000 : 30 000] *< 300 000*	[-8 : 6] *2 (1-sigma)*	Polynomial with coefficients $a0, a1, a2$ (nav. message)
	[-20 000 : 30 000] *< 300 000*	[-8 : 6] *2 (1-sigma)*	
Error due to the clock offset of the satellites (S/A=on) (P4b, 2b) (p6a,9)	*< 300 000*	[-100 : 100] *20 (1-sigma)*	Polynomial with coefficients $a0, a1, a2$ (nav. message)
	< 300 000	[-100 : 100] *20 (1-sigma)*	
Error in distance (ρ) due to an error in satellite coordinates (S/A=off) (p4b, 3a) (p6a,9)	xxxxxxxxxxxxxxxx	[-10 : 12] *4 (1-sigma)*	Orbital elem. and perturb. terms (nav. message) (`orbit.f`)
	xxxxxxxxxxxxxxxx	[-5 : 2] *2 (1-sigma)*	
Error in distance (ρ) due to an error in satellite coordinates (S/A=on) (p4b, 2d) (p6a,9)	xxxxxxxxxxxxxxxx	[-12 : 10] *[4:100]) (1-sigma)*	Orbital elem. and perturb. terms (nav. message) (`orbit.f`)
	xxxxxxxxxxxxxxxx	[-4 : 2] *[2:50] (1-sigma)*	
Error of coordinates are taken at the reception epoch instead of emission (P5b, 4a)	[-300 : 300] *< 400*	xxxxxxxxxxxxxxxx	For example, the algorithm `rec2ems.f`
	[-300 : 300] *< 400*	xxxxxxxxxxxxxxxx	

Note: 1) all magnitudes are given in meters. 2) FO= slant factor $\simeq 1/sin(elev)$.

3) For the observed error, the variation range which was obtained in the exercises is given [a : b].

4) For the *theoretical error*, error at "1-sigma" is given, where indicated.