

So 23. Aug 10:58:51 CEST 2020

popkin143

\$PROBLEM PSM

\$INPUT ID TIME TAD ISC AMT RATE CMT EVID DV MDV DADM STUD IDUR=DROP DEL1=DROP DEL2=DROP DEL4=DROP
DEL=DROP SEX=DROP AGE=DROP WT=DROP BMI=DROP RACE=DROP RAC1=DROP RAC2=DROP RAC3=DROP RAC4=DROP ADA=DROP
ADAT=DROP NEUT=DROP CLCR=DROP GFR=DROP ALT=DROP AST=DROP CRP=DROP BILT=DROP

\$DATA Final_Dataset.csv IGNORE=@
IGNORE = (ID .EQ. 135)

\$SUBROUTINE ADVAN4 TRANS4

\$PK

TVCL = THETA(1)
TVV2 = THETA(2)
TVQ = THETA(3)
TVV3 = THETA(4)
TVKA = THETA(5)
TVF1 = THETA(6)
TVALAG1 = THETA(7)

ETACL = ETA(1)
ETAV2 = ETA(2)
ETAQ = ETA(3)
ETAV3 = ETA(4)
ETAKA = ETA(5)
ETAF1 = ETA(6)
ETALAG1 = ETA(7)

CL = THETA(1)*EXP(ETA(1))
V2 = THETA(2)*EXP(ETA(2))
Q = THETA(3)*EXP(ETA(3))
V3 = THETA(4)*EXP(ETA(4))
KA = THETA(5)*EXP(ETA(5))
F1 = THETA(6)*EXP(ETA(6))
ALAG1 = THETA(7)*EXP(ETA(7))

PHI = LOG(TVF1/(1-TVF1))
F1 = EXP(PHI+ETAF1)/(1+EXP(PHI+ETAF1))

S2=V2

\$ERROR

TOTO = 0
IF (F.EQ.0) TOTO = 1

Y = F*(1+ERR(1)) + ERR(2)

IPRED = F
IRES = IPRED - DV
IWRES = IRES * (1 - TOTO) / (IPRED + TOTO)

\$THETA

(0.001, 0.010) ;CL
(0.001, 3) ;V2
(0.001, 0.05) ;Q
(0.001, 3) ;V3
(0.001, 0.03) ;KA
0.5 ;F1
(0.001, 2) ;ALAG1

\$OMEGA

0.5 ;CL
0.5 ;V2
0.5 ;Q
0.5 ;V3
0.5 ;KA
0.5 ;F1
0 FIX ;ALAG1

\$SIGMA

0.4

1

\$ESTIMATION METHOD=1 INTER PRINT=1 NOABORT MAXEVAL=9999

\$COVARIANCE PRINT=E

\$TABLE ID TIME PRED IPRED CWRES IWRES NPDE NOAPPEND NOPRINT FILE=sdtab

\$TABLE ID TIME CL V2 Q V3 KA F1 ALAG1 ETA1 ETA2 ETA3 ETA4 ETA5 ETA6 ETA7 NOAPPEND NOPRINT FILE=patab

\$TABLE ID ONEHEADER NOPRINT FILE=cotab

\$TABLE ID DADM STUD ISC ONEHEADER NOPRINT FILE=catable

\$TABLE ID TIME TAD DV AMT RATE CMT EVID MDV CMT IPRED CWRES IRES IWRES CL V2 Q V3 KA F1 ETACL ETAV2

ETAQ ETAV3 ETAKA DADM ISC STUD ONEHEADER NOPRINT FILE=mytab.tab

NM-TRAN MESSAGES

WARNINGS AND ERRORS (IF ANY) FOR PROBLEM 1

(WARNING 2) NM-TRAN INFERS THAT THE DATA ARE POPULATION.

(DATA WARNING 5) RECORD 421, DATA ITEM 9, CONTENTS: 2.49
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1183, DATA ITEM 9, CONTENTS: 150
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1297, DATA ITEM 9, CONTENTS: 1.43
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1304, DATA ITEM 9, CONTENTS: 10.3
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1360, DATA ITEM 9, CONTENTS: 1.42
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1381, DATA ITEM 9, CONTENTS: 2.84
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1628, DATA ITEM 9, CONTENTS: 43.3
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1668, DATA ITEM 9, CONTENTS: 11.4
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1735, DATA ITEM 9, CONTENTS: 49.8
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1951, DATA ITEM 9, CONTENTS: 574
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 1955, DATA ITEM 9, CONTENTS: 269
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 2006, DATA ITEM 9, CONTENTS: 314
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

(DATA WARNING 5) RECORD 2007, DATA ITEM 9, CONTENTS: 283
THE DV DATA ITEM IS POSITIVE, BUT THE MDV DATA ITEM IS 1

License Registered to: Sanofi

Expiration Date: 14 JAN 2021

Current Date: 23 AUG 2020

Days until program expires : 146

1NONLINEAR MIXED EFFECTS MODEL PROGRAM (NONMEM) VERSION 7.4.1

ORIGINALLY DEVELOPED BY STUART BEAL, LEWIS SHEINER, AND ALISON BOECKMANN

CURRENT DEVELOPERS ARE ROBERT BAUER, ICON DEVELOPMENT SOLUTIONS,

AND ALISON BOECKMANN. IMPLEMENTATION, EFFICIENCY, AND STANDARDIZATION

PERFORMED BY NOUS INFOSYSTEMS.

PROBLEM NO.: 1

PSM

0DATA CHECKOUT RUN: NO

DATA SET LOCATED ON UNIT NO.: 2
THIS UNIT TO BE REWOUND: NO
NO. OF DATA RECS IN DATA SET: 2027
NO. OF DATA ITEMS IN DATA SET: 12
ID DATA ITEM IS DATA ITEM NO.: 1
DEP VARIABLE IS DATA ITEM NO.: 9
MDV DATA ITEM IS DATA ITEM NO.: 10
0INDICES PASSED TO SUBROUTINE PRED:
8 2 5 6 0 0 7 0 0 0 0
0LABELS FOR DATA ITEMS:
ID TIME TAD ISC AMT RATE CMT EVID DV MDV DADM STUD
0(NONBLANK) LABELS FOR PRED-DEFINED ITEMS:
ETACL ETAV2 ETAQ ETAV3 ETAKA CL V2 Q V3 KA F1 ALAG1 IPRED IRES IWRES
0FORMAT FOR DATA:
(E4.0,2E8.0,E2.0,E5.0,E8.0,2E2.0,E5.0,E2.0,E5.0,E2.0)

TOT. NO. OF OBS RECS: 1692
TOT. NO. OF INDIVIDUALS: 73
0LENGTH OF THETA: 7
0DEFAULT THETA BOUNDARY TEST OMITTED: NO
0OMEGA HAS BLOCK FORM:
1
0 2
0 0 3
0 0 0 4
0 0 0 0 5
0 0 0 0 0 6
0 0 0 0 0 0 7
0DEFAULT OMEGA BOUNDARY TEST OMITTED: NO
0SIGMA HAS SIMPLE DIAGONAL FORM WITH DIMENSION: 2
0DEFAULT SIGMA BOUNDARY TEST OMITTED: NO
0INITIAL ESTIMATE OF THETA:
LOWER BOUND INITIAL EST UPPER BOUND
0.1000E-02 0.1000E-01 0.1000E+07
0.1000E-02 0.3000E+01 0.1000E+07
0.1000E-02 0.5000E-01 0.1000E+07
0.1000E-02 0.3000E+01 0.1000E+07
0.1000E-02 0.3000E-01 0.1000E+07
-0.1000E+07 0.5000E+00 0.1000E+07
0.1000E-02 0.2000E+01 0.1000E+07
0INITIAL ESTIMATE OF OMEGA:
BLOCK SET NO. BLOCK FIXED
1 NO
0.5000E+00
2 NO
0.5000E+00
3 NO
0.5000E+00
4 NO
0.5000E+00
5 NO
0.5000E+00
6 NO
0.5000E+00
7 YES
0.0000E+00
0INITIAL ESTIMATE OF SIGMA:
0.4000E+00
0.0000E+00 0.1000E+01
0COVARIANCE STEP OMITTED: NO
EIGENVLS. PRINTED: YES
SPECIAL COMPUTATION: NO
COMPRESSED FORMAT: NO
GRADIENT METHOD USED: NOSLOW
SIGDIGITS ETAHAT (SIGLO): -1
SIGDIGITS GRADIENTS (SIGL): -1
EXCLUDE COV FOR FOCE (NOFCOV): NO
TURN OFF Cholesky Transposition of R Matrix (CHOLROFF): NO
KNUTHSUMOFF: -1
RESUME COV ANALYSIS (RESUME): NO
SIR SAMPLE SIZE (SIRSAMPLE): -1
NON-LINEARLY TRANSFORM THETAS DURING COV (THBND): 1

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PRECONDITIONING CYCLES (PRECOND):          0
PRECONDITIONING TYPES (PRECONDS):          T0S
FORCED PRECONDITIONING CYCLES (PFCOND):0
PRECONDITIONING TYPE (PRETYPE):            0
FORCED POS. DEFINITE SETTING: (FPOSDEF):0
0TABLES STEP OMITTED:      NO
NO. OF TABLES:            5
SEED NUMBER (SEED):        11456
RANMETHOD:                 3U
MC SAMPLES (ESAMPLE):      300
WRES SQUARE ROOT TYPE (WRESCHOL): EIGENVALUE
0-- TABLE 1 --
0RECORDS ONLY:      ALL
04 COLUMNS APPENDED:      NO
PRINTED:            NO
HEADERS:            YES
FILE TO BE FORWARDED:  NO
FORMAT:             S1PE11.4
LFORMAT:
RFORMAT:
FIXED_EFFECT_ETAS:
0USER-CHOSEN ITEMS:
ID TIME PRED IPRED CWRES IWRES NPDE
0-- TABLE 2 --
0RECORDS ONLY:      ALL
04 COLUMNS APPENDED:      NO
PRINTED:            NO
HEADERS:            YES
FILE TO BE FORWARDED:  NO
FORMAT:             S1PE11.4
LFORMAT:
RFORMAT:
FIXED_EFFECT_ETAS:
0USER-CHOSEN ITEMS:
ID TIME CL V2 Q V3 KA F1 ALAG1 ETA1 ETA2 ETA3 ETA4 ETA5 ETA6 ETA7
0-- TABLE 3 --
0RECORDS ONLY:      ALL
04 COLUMNS APPENDED:      YES
PRINTED:            NO
HEADERS:            ONE
FILE TO BE FORWARDED:  NO
FORMAT:             S1PE11.4
LFORMAT:
RFORMAT:
FIXED_EFFECT_ETAS:
0USER-CHOSEN ITEMS:
ID
0-- TABLE 4 --
0RECORDS ONLY:      ALL
04 COLUMNS APPENDED:      YES
PRINTED:            NO
HEADERS:            ONE
FILE TO BE FORWARDED:  NO
FORMAT:             S1PE11.4
LFORMAT:
RFORMAT:
FIXED_EFFECT_ETAS:
0USER-CHOSEN ITEMS:
ID DADM STUD ISC
0-- TABLE 5 --
0RECORDS ONLY:      ALL
04 COLUMNS APPENDED:      YES
PRINTED:            NO
HEADERS:            ONE
FILE TO BE FORWARDED:  NO
FORMAT:             S1PE11.4
LFORMAT:
RFORMAT:
FIXED_EFFECT_ETAS:
0USER-CHOSEN ITEMS:
ID TIME TAD DV AMT RATE CMT EVID MDV CMT IPRED CWRES IRES IWRES CL V2 Q V3 KA F1 ETACL ETAV2 ETAQ
ETAV3 ETAKA DADM ISC
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STUD
1DOUBLE PRECISION PREDPP VERSION 7.4.1

TWO COMPARTMENT MODEL WITH FIRST-ORDER ABSORPTION (ADVAN4)
@MAXIMUM NO. OF BASIC PK PARAMETERS: 5
@BASIC PK PARAMETERS (AFTER TRANSLATION):
  BASIC PK PARAMETER NO. 1: ELIMINATION RATE (K)
  BASIC PK PARAMETER NO. 2: CENTRAL-TO-PERIPH. RATE (K23)
  BASIC PK PARAMETER NO. 3: PERIPH.-TO-CENTRAL RATE (K32)
  BASIC PK PARAMETER NO. 5: ABSORPTION RATE (KA)
TRANSLATOR WILL CONVERT PARAMETERS
CL, V2, Q, V3 TO K, K23, K32 (TRANS4)
@COMPARTMENT ATTRIBUTES
COMPT. NO.  FUNCTION  INITIAL  ON/OFF  DOSE  DEFAULT  DEFAULT
              STATUS   ALLOWED  ALLOWED  FOR DOSE  FOR OBS.
1             DEPOT    OFF      YES     YES     YES      NO
2             CENTRAL  ON       NO      YES     NO       YES
3             PERIPH.  ON       NO      YES     NO       NO
4             OUTPUT  OFF      YES     NO      NO       NO

1
ADDITIONAL PK PARAMETERS - ASSIGNMENT OF ROWS IN GG
COMPT. NO.  SCALE  BIOAVAIL.  ZERO-ORDER  ZERO-ORDER  ABSORB
              FRACTION  RATE  DURATION  LAG
1             *      6      *      *      7
2             8      *      *      *      *
3             *      *      *      *      *
4             *      -      -      -      -
- PARAMETER IS NOT ALLOWED FOR THIS MODEL
* PARAMETER IS NOT SUPPLIED BY PK SUBROUTINE;
  WILL DEFAULT TO ONE IF APPLICABLE
@DATA ITEM INDICES USED BY PRED ARE:
EVENT ID DATA ITEM IS DATA ITEM NO.: 8
TIME DATA ITEM IS DATA ITEM NO.: 2
DOSE AMOUNT DATA ITEM IS DATA ITEM NO.: 5
DOSE RATE DATA ITEM IS DATA ITEM NO.: 6
COMPT. NO. DATA ITEM IS DATA ITEM NO.: 7

@PK SUBROUTINE CALLED WITH EVERY EVENT RECORD.
PK SUBROUTINE NOT CALLED AT NONEVENT (ADDITIONAL OR LAGGED) DOSE TIMES.
@ERROR SUBROUTINE CALLED WITH EVERY EVENT RECORD.

#PARA: PARAFILE=fpilinux8.pnm, PROTOCOL=FPI, NODES= 6

1

#TBLN: 1
#METH: First Order Conditional Estimation with Interaction

ESTIMATION STEP OMITTED: NO
ANALYSIS TYPE: POPULATION
NUMBER OF SADDLE POINT RESET ITERATIONS: 0
GRADIENT METHOD USED: NOSLOW
CONDITIONAL ESTIMATES USED: YES
CENTERED ETA: NO
EPS-ETA INTERACTION: YES
LAPLACIAN OBJ. FUNC.: NO
NO. OF FUNCT. EVALS. ALLOWED: 9999
NO. OF SIG. FIGURES REQUIRED: 3
INTERMEDIATE PRINTOUT: YES
ESTIMATE OUTPUT TO MSF: NO
ABORT WITH PRED EXIT CODE 1: NO
IND. OBJ. FUNC. VALUES SORTED: NO
NUMERICAL DERIVATIVE
  FILE REQUEST (NUMDER): NONE
MAP (ETAHAT) ESTIMATION METHOD (OPTMAP): 0
ETA HESSIAN EVALUATION METHOD (ETADER): 0
INITIAL ETA FOR MAP ESTIMATION (MCETA): 0
SIGDIGITS FOR MAP ESTIMATION (SIGLO): 100
GRADIENT SIGDIGITS OF
  FIXED EFFECTS PARAMETERS (SIGL): 100
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NOPRIOR SETTING (NOPRIOR):      OFF
NOCOV SETTING (NOCOV):          OFF
DERCONT SETTING (DERCONT):      OFF
FINAL ETA RE-EVALUATION (FNLETA): ON
EXCLUDE NON-INFLUENTIAL (NON-INFL.) ETAS
    IN SHRINKAGE (ETATYPE):      NO
NON-INFL. ETA CORRECTION (NONINFETA): OFF
RAW OUTPUT FILE (FILE): PSM.ext
EXCLUDE TITLE (NOTITLE):        NO
EXCLUDE COLUMN LABELS (NOLABEL): NO
FORMAT FOR ADDITIONAL FILES (FORMAT): S1PE12.5
PARAMETER ORDER FOR OUTPUTS (ORDER): TSOL
WISHART PRIOR DF INTERPRETATION (WISHTYPE): 0
KNUTHSUMOFF:                    0
INCLUDE LNTWOPI:                NO
INCLUDE CONSTANT TERM TO PRIOR (PRIORC): NO
INCLUDE CONSTANT TERM TO OMEGA (ETA) (OLNTWOPI): NO
ADDITIONAL CONVERGENCE TEST (CTYPE=4)? : NO
EM OR BAYESIAN METHOD USED:      NONE

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THE FOLLOWING LABELS ARE EQUIVALENT

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PRED=PREDI
RES=RESI
WRES=WRESI
IWR=IWRESI
IPRD=IPREDI
IRS=IRESI

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MONITORING OF SEARCH:

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0 ITERATION NO.:    0    OBJECTIVE VALUE:  13218.5956486488    NO. OF FUNC. EVALS.:  11
CUMULATIVE NO. OF FUNC. EVALS.:    11
NPARAMETR:  1.0000E-02  3.0000E+00  5.0000E-02  3.0000E+00  3.0000E-02  5.0000E-01  2.0000E+00
5.0000E-01  5.0000E-01  5.0000E-01
5.0000E-01  5.0000E-01  5.0000E-01  4.0000E-01  1.0000E+00
PARAMETER:  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01
1.0000E-01  1.0000E-01  1.0000E-01
1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01  1.0000E-01
GRADIENT:  1.1206E+02 -6.7938E+01  1.5528E+01  3.8264E+01  9.3263E+01 -9.1234E+02 -3.0155E+01
6.0601E+01  7.5244E+01  1.7954E+01
5.3704E+01 -2.1997E+01  1.1601E+01  2.1126E+03 -5.5056E+02

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0 ITERATION NO.:    1    OBJECTIVE VALUE:  12848.5032523407    NO. OF FUNC. EVALS.:  13
CUMULATIVE NO. OF FUNC. EVALS.:    24
NPARAMETR:  9.9287E-03  3.0145E+00  4.9946E-02  2.9919E+00  2.9809E-02  8.2389E-01  2.0043E+00
4.9572E-01  4.9469E-01  4.9873E-01
4.9620E-01  5.0156E-01  4.9918E-01  2.9633E-01  1.0813E+00
PARAMETER:  9.2044E-02  1.0482E-01  9.8897E-02  9.7283E-02  9.3378E-02  1.6478E-01  1.0214E-01
9.5697E-02  9.4658E-02  9.8725E-02
9.6187E-02  1.0156E-01  9.9176E-02 -5.0000E-02  1.3909E-01
GRADIENT:  7.0200E+01 -1.1540E+02  2.0854E+01  5.7861E+00  9.9221E+01  2.8659E+02 -2.6600E+01
9.6130E+01  3.5316E+01  1.8573E+01
6.8828E+01 -3.0705E+01  5.3483E+00  2.2220E+03 -4.9211E+02

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0 ITERATION NO.:    2    OBJECTIVE VALUE:  11158.7835018842    NO. OF FUNC. EVALS.:  14
CUMULATIVE NO. OF FUNC. EVALS.:    38
NPARAMETR:  9.5965E-03  3.2083E+00  4.9398E-02  2.9825E+00  2.8305E-02  4.9997E-02  2.0333E+00
4.4683E-01  4.7617E-01  4.8882E-01
4.6065E-01  5.1848E-01  4.9630E-01  2.6882E-02  1.8399E+00
PARAMETER:  5.4131E-02  1.6715E-01  8.7635E-02  9.4158E-02  3.9792E-02  9.9994E-03  1.1651E-01
4.3781E-02  7.5585E-02  8.8694E-02
5.9015E-02  1.1814E-01  9.6288E-02 -1.2500E+00  4.0486E-01
GRADIENT:  2.7501E+02  1.3556E+02  1.0255E+02  2.0843E+02  9.1880E+01 -2.2133E+04 -9.7886E+01
-2.0891E+02  2.1351E+01 -8.1750E+01
-1.3222E+02 -1.4618E+01 -8.5489E+02  1.1926E+03 -1.4511E+02

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0 ITERATION NO.:    3    OBJECTIVE VALUE:  10460.1823667791    NO. OF FUNC. EVALS.:  12
CUMULATIVE NO. OF FUNC. EVALS.:    50
NPARAMETR:  9.4262E-03  3.3062E+00  4.9106E-02  2.9750E+00  2.7582E-02  1.9999E-01  2.0487E+00
4.2538E-01  4.6721E-01  4.8439E-01

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	4.4464E-01	5.2710E-01	4.9897E-01	8.1415E-03	2.3944E+00		
PARAMETER:	3.4122E-02	1.9722E-01	8.1591E-02	9.1617E-02	1.2937E-02	3.9998E-02	1.2406E-01
1.9193E-02	6.6081E-02	8.4143E-02					
	4.1327E-02	1.2639E-01	9.8970E-02	-1.8472E+00	5.3657E-01		
GRADIENT:	2.2908E+02	9.9701E+01	1.2336E+02	1.5966E+02	1.0066E+02	-4.3365E+03	-9.9811E+01
-7.5771E+01	6.5760E+01	-1.3018E+02					
	-5.4934E+01	-2.2643E+01	-2.7602E+02	-8.4489E+02	-1.6882E+02		

0ITERATION NO.:	4	OBJECTIVE VALUE:	10305.0044048221	NO. OF FUNC. EVALS.:	13		
CUMULATIVE NO. OF FUNC. EVALS.:		63					
NPARAMETR:	7.5634E-03	3.2341E+00	4.3025E-02	2.5715E+00	2.3760E-02	1.8398E-01	2.2903E+00
4.1539E-01	3.8765E-01	6.2256E-01					
	4.4128E-01	5.7221E-01	6.4960E-01	8.2369E-03	5.8642E+00		
PARAMETER:	-2.1572E-01	1.7517E-01	-5.3560E-02	-5.4170E-02	-1.4231E-01	3.6797E-02	2.3559E-01
7.2996E-03	-2.7248E-02	2.0961E-01					
	3.7532E-02	1.6745E-01	2.3087E-01	-1.8414E+00	9.8443E-01		
GRADIENT:	1.6415E+02	1.0633E+02	9.7275E+01	9.6681E+01	7.1476E+01	-3.6562E+03	-6.0685E+00
1.4695E+01	5.7446E+01	-6.7957E+01					
	1.9586E+01	1.1222E+01	-2.4142E+02	-4.7990E+02	1.6907E+02		

0ITERATION NO.:	5	OBJECTIVE VALUE:	10161.4219694163	NO. OF FUNC. EVALS.:	15		
CUMULATIVE NO. OF FUNC. EVALS.:		78					
NPARAMETR:	4.3078E-03	2.5941E+00	2.8673E-02	1.8659E+00	1.5900E-02	7.2491E-02	2.3336E+00
2.0612E-01	2.0869E-01	1.0180E+00					
	2.5327E-01	5.6243E-01	1.7027E+00	6.9978E-03	5.0586E+00		
PARAMETER:	-9.0094E-01	-4.5433E-02	-4.7135E-01	-3.7505E-01	-5.6595E-01	1.4498E-02	2.5434E-01
-3.4308E-01	-3.3689E-01	4.5550E-01					
	-2.4008E-01	1.5883E-01	7.1267E-01	-1.9229E+00	9.1055E-01		
GRADIENT:	3.1938E+01	4.7828E+01	4.4139E+01	-2.2130E+01	2.5047E+01	7.7144E+03	5.7057E+01
5.8957E+01	6.2444E+01	-1.3795E+01					
	3.2070E+01	3.8583E+01	-2.4080E+02	-7.7952E+02	1.0008E+02		

0ITERATION NO.:	6	OBJECTIVE VALUE:	10161.4219694163	NO. OF FUNC. EVALS.:	32		
CUMULATIVE NO. OF FUNC. EVALS.:		110					
NPARAMETR:	4.3078E-03	2.5941E+00	2.8673E-02	1.8659E+00	1.5900E-02	7.2491E-02	2.3336E+00
2.0612E-01	2.0869E-01	1.0180E+00					
	2.5327E-01	5.6243E-01	1.7027E+00	6.9978E-03	5.0586E+00		
PARAMETER:	-9.0094E-01	-4.5433E-02	-4.7135E-01	-3.7505E-01	-5.6595E-01	1.4498E-02	2.5434E-01
-3.4308E-01	-3.3689E-01	4.5550E-01					
	-2.4008E-01	1.5883E-01	7.1267E-01	-1.9229E+00	9.1055E-01		
GRADIENT:	-2.4032E+01	4.2299E+01	4.3361E+01	-2.6591E+01	1.9422E+01	-9.5077E+03	5.6894E+01
5.8957E+01	6.2444E+01	-1.3795E+01					
	3.2070E+01	3.8583E+01	-2.4080E+02	-7.8494E+02	9.9590E+01		

0ITERATION NO.:	7	OBJECTIVE VALUE:	10040.7503413653	NO. OF FUNC. EVALS.:	27		
CUMULATIVE NO. OF FUNC. EVALS.:		137					
NPARAMETR:	5.0264E-03	2.9727E+00	2.8657E-02	2.2755E+00	1.5329E-02	1.7219E-01	2.0214E+00
1.0893E-01	1.6881E-01	8.9428E-01					
	1.6993E-01	5.1151E-01	1.0965E+00	8.0389E-03	6.9565E+00		
PARAMETER:	-7.0435E-01	9.0865E-02	-4.7193E-01	-1.7651E-01	-6.0501E-01	3.4437E-02	1.1065E-01
-6.6193E-01	-4.4292E-01	3.9071E-01					
	-4.3961E-01	1.1138E-01	4.9264E-01	-1.8536E+00	1.0698E+00		
GRADIENT:	1.9426E+01	9.8162E+01	4.8479E+01	2.7877E+01	2.3824E+01	-5.0302E+03	1.9188E+01
4.0510E+01	5.8199E+01	1.0029E+00					
	4.0632E+01	3.5869E+01	-2.0058E+02	-3.8546E+02	2.4802E+02		

0ITERATION NO.:	8	OBJECTIVE VALUE:	10006.1917609720	NO. OF FUNC. EVALS.:	27		
CUMULATIVE NO. OF FUNC. EVALS.:		164					
NPARAMETR:	4.8356E-03	2.2637E+00	2.1369E-02	1.9946E+00	1.1172E-02	1.7569E-01	2.3137E+00
3.7808E-02	6.1310E-02	8.3306E-01					
	7.1530E-02	4.1166E-01	1.5612E+00	8.0298E-03	8.5295E+00		
PARAMETER:	-7.5289E-01	-1.8173E-01	-7.7779E-01	-3.0833E-01	-9.4768E-01	3.5139E-02	2.4577E-01
-1.1910E+00	-9.4933E-01	3.5525E-01					
	-8.7225E-01	2.7989E-03	6.6931E-01	-1.8542E+00	1.1718E+00		
GRADIENT:	-1.0536E+01	-2.2510E+02	1.5640E+01	-2.3158E+02	-1.4154E+01	-3.3685E+03	8.2087E+01
-7.3353E+01	7.8290E+00	2.0217E+01					
	-1.6583E+01	2.5253E+01	-1.0380E+02	-3.3063E+02	3.1998E+02		

0ITERATION NO.:	9	OBJECTIVE VALUE:	9992.48399943489	NO. OF FUNC. EVALS.:	27		
CUMULATIVE NO. OF FUNC. EVALS.:		191					
NPARAMETR:	4.7074E-03	2.3685E+00	1.9949E-02	2.0832E+00	1.0449E-02	1.7125E-01	2.3977E+00
3.4901E-02	4.9945E-02	8.2741E-01					

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        6.3815E-02  3.9807E-01  1.7592E+00  8.0363E-03  8.4699E+00
PARAMETER: -7.8688E-01 -1.3644E-01 -8.5005E-01 -2.6487E-01 -1.0214E+00  3.4250E-02  2.8144E-01
-1.2310E+00 -1.0518E+00  3.5184E-01
        -9.2931E-01 -1.3994E-02  7.2901E-01 -1.8537E+00  1.1683E+00
GRADIENT: -1.1177E+02 -1.8640E+02  1.2423E+01 -1.9206E+02 -2.7852E+01 -3.1730E+03  1.2629E+02
-8.3549E+01  1.3326E+01  1.3750E+01
        -1.0095E+01  1.9790E+01 -9.5776E+01 -3.1978E+02  3.0708E+02

0ITERATION NO.: 10    OBJECTIVE VALUE: 9960.84336427670    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 218
NPARAMETR: 5.2663E-03 2.7730E+00 1.4745E-02 2.3077E+00 8.1496E-03 1.3877E-01 2.4902E+00
3.3805E-02 2.0028E-02 8.7008E-01
        4.2258E-02 3.6601E-01 3.2773E+00 8.0423E-03 8.4547E+00
PARAMETER: -6.4648E-01 2.1291E-02 -1.1711E+00 -1.6246E-01 -1.3002E+00 2.7755E-02 3.1932E-01
-1.2470E+00 -1.5087E+00 3.7699E-01
        -1.1354E+00 -5.5978E-02 1.0401E+00 -1.8534E+00 1.1674E+00
GRADIENT: 1.4973E+01 2.4095E+01 -3.2876E+01 -1.5842E+02 -8.0690E+01 -2.6979E+03 1.7361E+02
-5.1744E+01 -1.9701E+00 1.7840E+01
        -3.6430E+00 -2.0398E+01 -8.5748E+01 -3.2977E+02 2.9290E+02

0ITERATION NO.: 11    OBJECTIVE VALUE: 9954.32016343062    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 245
NPARAMETR: 5.2016E-03 2.6859E+00 1.3447E-02 2.6138E+00 7.7466E-03 1.2097E-01 2.2648E+00
3.5655E-02 1.3287E-02 8.8370E-01
        3.5790E-02 3.9504E-01 4.3346E+00 8.0318E-03 8.9253E+00
PARAMETER: -6.6176E-01 -1.0645E-02 -1.2703E+00 -3.7855E-02 -1.3583E+00 2.4195E-02 2.2441E-01
-1.2204E+00 -1.7139E+00 3.8476E-01
        -1.2185E+00 -1.7810E-02 1.1799E+00 -1.8540E+00 1.1944E+00
GRADIENT: -5.8853E+01 -5.8910E+01 -4.7156E+01 1.1370E+01 -6.8765E+01 -2.5404E+03 1.2246E+02
-3.8326E+01 -2.6210E+01 1.5226E+01
        5.2523E+00 -6.6722E+00 -7.2814E+01 -3.0571E+02 3.1763E+02

0ITERATION NO.: 12    OBJECTIVE VALUE: 9952.25581980245    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 272
NPARAMETR: 5.1026E-03 2.7730E+00 1.3461E-02 2.5584E+00 7.7553E-03 1.1704E-01 2.1583E+00
3.5895E-02 1.1818E-02 8.7900E-01
        3.3147E-02 4.2179E-01 4.6565E+00 8.0560E-03 8.9788E+00
PARAMETER: -6.8560E-01 2.1291E-02 -1.2692E+00 -5.9269E-02 -1.3570E+00 2.3408E-02 1.7623E-01
-1.2170E+00 -1.7725E+00 3.8209E-01
        -1.2568E+00 1.4946E-02 1.2157E+00 -1.8525E+00 1.1974E+00
GRADIENT: -1.1072E+02 8.2118E+01 -4.3165E+01 -3.8955E+00 -6.8736E+01 -2.4682E+03 1.0023E+02
-4.1320E+01 -3.4191E+01 1.5339E+01
        3.5580E+00 -3.7326E+00 -6.5653E+01 -3.0087E+02 3.2311E+02

0ITERATION NO.: 13    OBJECTIVE VALUE: 9946.59198043431    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 299
NPARAMETR: 5.1378E-03 2.7820E+00 1.4204E-02 2.5750E+00 7.7717E-03 1.1967E-01 2.2497E+00
3.9105E-02 1.0430E-02 8.2377E-01
        2.8520E-02 5.0464E-01 4.6738E+00 8.1434E-03 8.7278E+00
PARAMETER: -6.7706E-01 2.4539E-02 -1.2113E+00 -5.2822E-02 -1.3545E+00 2.3933E-02 2.1772E-01
-1.1742E+00 -1.8349E+00 3.4964E-01
        -1.3320E+00 1.0462E-01 1.2176E+00 -1.8471E+00 1.1833E+00
GRADIENT: -9.5244E+01 1.0152E+02 -4.0014E+01 8.5954E+00 -5.8116E+01 -2.4083E+03 1.1516E+02
-3.1888E+01 -4.4358E+01 1.2699E+01
        8.5124E-01 8.5631E+00 -6.5050E+01 -2.9386E+02 3.1085E+02

0ITERATION NO.: 14    OBJECTIVE VALUE: 9934.79839087468    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 326
NPARAMETR: 4.9431E-03 2.6520E+00 2.1381E-02 2.5154E+00 4.5314E-03 1.3767E-01 1.9863E+00
9.8797E-02 1.1683E-02 5.0033E-01
        1.0889E-02 7.3542E-01 4.2574E+00 9.0527E-03 7.2657E+00
PARAMETER: -7.2527E-01 -2.3327E-02 -7.7724E-01 -7.6252E-02 -2.0056E+00 2.7535E-02 9.3130E-02
-7.1077E-01 -1.7782E+00 1.0033E-01
        -1.8134E+00 2.9292E-01 1.1709E+00 -1.7942E+00 1.0916E+00
GRADIENT: -8.8335E+01 -7.6717E+01 2.6318E+01 -1.1366E+02 -7.9503E+01 -2.1764E+03 3.0787E+02
4.1882E+01 -4.0035E+01 -8.1020E+00
        -1.3078E+01 -3.7806E+01 -5.7961E+01 -1.5404E+02 2.8220E+02

0ITERATION NO.: 15    OBJECTIVE VALUE: 9884.88428265337    NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 353
NPARAMETR: 4.9437E-03 2.5671E+00 2.4714E-02 2.4984E+00 2.1965E-03 1.6393E-01 1.5452E+00
1.8789E-01 3.4055E-02 3.8867E-01
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      4.2402E-03  6.0887E+00  4.2296E+00  1.0633E-02  4.4534E+00
PARAMETER: -7.2510E-01 -5.5904E-02 -6.2576E-01 -8.3042E-02 -3.0879E+00  3.2785E-02 -1.5812E-01
-3.8938E-01 -1.2433E+00 -2.5936E-02
      -2.2850E+00  1.3498E+00  1.1676E+00 -1.7137E+00  8.4684E-01
GRADIENT: -4.6829E+01 -9.1255E+01  6.9173E+01 -1.8452E+02 -1.2061E+01 -1.7160E+03  6.2616E+01
8.1662E+01  1.5706E+01 -3.5552E+01
      -1.1891E+01  4.6849E+01 -3.4810E+01  3.2062E+01  2.5777E+02
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0ITERATION NO.: 16      OBJECTIVE VALUE: 9873.30290347189      NO. OF FUNC. EVALS.: 28
CUMULATIVE NO. OF FUNC. EVALS.: 381
NPARAMETR: 4.9164E-03 2.5576E+00 2.5702E-02 2.5037E+00 2.1509E-03 1.7096E-01 1.5293E+00
1.9097E-01 3.2948E-02 5.3058E-01
      4.3287E-03 6.3479E+00 3.8859E+00 1.0644E-02 4.0839E+00
PARAMETER: -7.3205E-01 -5.9597E-02 -5.8495E-01 -8.0894E-02 -3.1268E+00 3.4192E-02 -1.6847E-01
-3.8124E-01 -1.2598E+00 1.2968E-01
      -2.2747E+00 1.3706E+00 1.1252E+00 -1.7132E+00 8.0353E-01
GRADIENT: -4.7863E+01 -9.5728E+01 6.0658E+01 -1.5541E+02 -1.1516E+01 -1.7550E+03 5.3881E+01
8.2025E+01 1.3900E+01 -1.4752E+01
      -1.2345E+01 4.7433E+01 -3.8735E+01 2.9738E+01 2.4203E+02
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0ITERATION NO.: 17      OBJECTIVE VALUE: 9811.08290336192      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 408
NPARAMETR: 5.1668E-03 2.5512E+00 3.3611E-02 2.4558E+00 2.4350E-03 1.6343E-01 1.4888E+00
1.0028E-01 1.6042E-02 6.3979E-01
      2.8409E-02 3.6514E+00 4.4958E+00 1.1451E-02 2.8035E+00
PARAMETER: -6.7008E-01 -6.2108E-02 -3.0718E-01 -1.0023E-01 -2.9061E+00 3.2687E-02 -1.9537E-01
-7.0333E-01 -1.6197E+00 2.2326E-01
      -1.3340E+00 1.0941E+00 1.1981E+00 -1.6767E+00 6.1544E-01
GRADIENT: -3.8925E+01 -2.1487E+02 9.2994E+01 -1.6364E+02 -2.0440E+01 -1.6209E+03 1.7306E+01
4.5950E+01 -2.1140E+01 -2.8785E+01
      1.4193E+00 2.7234E+01 -2.7934E+01 1.2869E+02 1.9604E+02
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0ITERATION NO.: 18      OBJECTIVE VALUE: 9723.52414282121      NO. OF FUNC. EVALS.: 28
CUMULATIVE NO. OF FUNC. EVALS.: 436
NPARAMETR: 5.1141E-03 2.6317E+00 1.9853E-02 2.3028E+00 6.8339E-03 1.5325E-01 1.6057E+00
7.4448E-02 1.7225E-02 6.2156E-01
      8.0843E-02 5.2310E-01 5.6977E+00 1.2927E-02 2.1643E+00
PARAMETER: -6.8281E-01 -3.1022E-02 -8.5517E-01 -1.6457E-01 -1.5036E+00 3.0650E-02 -1.1973E-01
-8.5226E-01 -1.5841E+00 2.0881E-01
      -8.1105E-01 1.2258E-01 1.3166E+00 -1.6161E+00 4.8605E-01
GRADIENT: -6.2628E+01 -1.2736E+02 4.7876E+00 -1.3070E+02 -6.4298E+01 -1.3853E+03 1.9396E+02
2.4945E+01 -9.4851E+00 5.3728E+00
      2.2908E+01 -4.1196E-01 -8.9580E+00 3.3876E+02 1.5802E+02
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0ITERATION NO.: 19      OBJECTIVE VALUE: 9711.91494097067      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 463
NPARAMETR: 4.8141E-03 2.5988E+00 1.4311E-02 2.0864E+00 1.0634E-02 1.9393E-01 1.5480E+00
9.0385E-02 1.2451E-02 5.1990E-01
      1.2750E-01 2.5071E-01 3.0602E+00 1.2984E-02 1.8261E+00
PARAMETER: -7.5852E-01 -4.3616E-02 -1.2033E+00 -2.6332E-01 -1.0020E+00 3.8786E-02 -1.5635E-01
-7.5526E-01 -1.7464E+00 1.1952E-01
      -5.8326E-01 -2.4516E-01 1.0058E+00 -1.6139E+00 4.0110E-01
GRADIENT: -6.2078E+01 -2.3472E+02 -5.1033E+01 -9.7374E+01 -2.4886E+01 -1.6392E+03 1.5668E+02
3.2781E+01 -3.3821E+01 -2.3065E+01
      3.0997E+01 -1.2325E+01 -2.0391E+01 3.1464E+02 1.3028E+02
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0ITERATION NO.: 20      OBJECTIVE VALUE: 9708.02656813349      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 490
NPARAMETR: 4.9049E-03 2.6351E+00 1.5109E-02 2.1538E+00 1.2336E-02 1.7909E-01 1.5728E+00
8.0042E-02 1.4262E-02 5.7163E-01
      1.2494E-01 1.9284E-01 3.9964E+00 1.3161E-02 1.8664E+00
PARAMETER: -7.3498E-01 -2.9723E-02 -1.1450E+00 -2.3153E-01 -8.3934E-01 3.5817E-02 -1.4041E-01
-8.1603E-01 -1.6785E+00 1.6694E-01
      -5.9338E-01 -3.7636E-01 1.1393E+00 -1.6071E+00 4.1202E-01
GRADIENT: -5.8259E+01 -1.9389E+02 -4.1661E+01 -7.7597E+01 2.2164E+01 -1.4531E+03 1.7479E+02
2.7446E+01 -2.1622E+01 -1.4100E+01
      3.4323E+01 -2.9380E+01 -1.0201E+01 3.4694E+02 1.3180E+02
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0ITERATION NO.: 21      OBJECTIVE VALUE: 9645.79549256071      NO. OF FUNC. EVALS.: 29
CUMULATIVE NO. OF FUNC. EVALS.: 519
NPARAMETR: 5.1462E-03 2.7196E+00 1.7534E-02 2.3337E+00 1.0231E-02 2.2075E-01 1.4783E+00
6.5675E-02 2.0444E-02 7.5269E-01
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          9.2678E-02  2.2086E-01  3.4586E+00  1.3364E-02  1.2867E+00
PARAMETER: -6.7502E-01  1.8298E-03  -9.8637E-01  -1.5127E-01  -1.0447E+00  4.4151E-02  -2.0242E-01
-9.1494E-01  -1.4985E+00  3.0452E-01
          -7.4274E-01  -3.0855E-01  1.0670E+00  -1.5995E+00  2.2603E-01
GRADIENT:  -5.4811E+01  -2.1144E+01  -1.5893E+01  -6.6682E+01  -2.9326E+01  -1.3700E+03  6.5080E+01
1.7143E+01  2.4722E+00  2.4614E+01
          3.1578E+01  -1.9490E+01  -1.8806E+01  3.3008E+02  9.3799E+01
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0ITERATION NO.: 22      OBJECTIVE VALUE: 9596.89778254096      NO. OF FUNC. EVALS.: 28
CUMULATIVE NO. OF FUNC. EVALS.: 547
NPARAMETR:  5.4433E-03  2.7799E+00  1.8199E-02  2.5975E+00  9.8081E-03  2.9735E-01  1.5071E+00
4.6461E-02  2.7331E-02  7.0563E-01
          3.9184E-02  3.2005E-01  2.3978E+00  1.2798E-02  8.9226E-01
PARAMETER: -6.0583E-01  2.3788E-02  -9.4695E-01  -4.4099E-02  -1.0916E+00  5.9470E-02  -1.8312E-01
-1.0880E+00  -1.3533E+00  2.7224E-01
          -1.1732E+00  -1.2307E-01  8.8385E-01  -1.6211E+00  4.3002E-02
GRADIENT:  -1.5286E+01  6.2305E+01  -2.2791E+01  2.0402E+01  -2.3376E+01  -1.4090E+03  8.4206E+01
-1.9671E+01  1.1873E+01  2.2554E+01
          6.9779E+00  4.9061E+00  -3.2787E+01  1.8338E+02  4.2194E+01
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0ITERATION NO.: 23      OBJECTIVE VALUE: 9573.74886116579      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 574
NPARAMETR:  5.3530E-03  2.7849E+00  1.7559E-02  2.5664E+00  1.0140E-02  4.1088E-01  1.4019E+00
5.0641E-02  2.4288E-02  7.4196E-01
          2.6596E-02  2.8019E-01  9.8655E-01  1.2173E-02  5.3258E-01
PARAMETER: -6.2636E-01  2.5567E-02  -9.8486E-01  -5.6158E-02  -1.0546E+00  8.2176E-02  -2.5557E-01
-1.0449E+00  -1.4123E+00  2.9734E-01
          -1.3669E+00  -1.8957E-01  4.3980E-01  -1.6461E+00  -2.1501E-01
GRADIENT:  -2.1115E+01  1.2269E+02  -2.2928E+01  7.1091E+01  -1.7100E+01  -1.8716E+03  -7.3455E+01
-1.8913E+01  1.5352E+00  2.7988E+01
          -9.6469E+00  -2.6832E+00  -4.6487E+01  -1.8900E+01  -3.3539E+01
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0ITERATION NO.: 24      OBJECTIVE VALUE: 9552.65566849772      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 601
NPARAMETR:  5.2913E-03  2.7465E+00  1.7979E-02  2.4210E+00  1.0880E-02  5.1647E-01  1.4342E+00
4.6510E-02  2.1083E-02  7.0077E-01
          3.7314E-02  3.5677E-01  3.8666E-01  1.1579E-02  3.8774E-01
PARAMETER: -6.4064E-01  1.1696E-02  -9.5984E-01  -1.1450E-01  -9.7675E-01  1.0329E-01  -2.3271E-01
-1.0875E+00  -1.4831E+00  2.6879E-01
          -1.1976E+00  -6.8757E-02  -2.8529E-02  -1.6711E+00  -3.7370E-01
GRADIENT:  6.4674E+00  9.2985E+01  -1.6093E+01  4.5149E+00  -4.8869E+00  -2.1043E+03  -6.7091E+01
-3.3736E+01  -6.6339E+00  1.7233E+01
          -1.0455E+01  1.1734E+01  -2.7760E+01  -1.9125E+02  -7.1790E+01
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0ITERATION NO.: 25      OBJECTIVE VALUE: 9542.99375195939      NO. OF FUNC. EVALS.: 28
CUMULATIVE NO. OF FUNC. EVALS.: 629
NPARAMETR:  5.2312E-03  2.7194E+00  1.8135E-02  2.3414E+00  1.1369E-02  5.9322E-01  1.4504E+00
4.5666E-02  1.9784E-02  6.6067E-01
          4.2610E-02  4.0321E-01  1.9497E-01  1.1295E-02  3.1599E-01
PARAMETER: -6.5473E-01  1.7644E-03  -9.5070E-01  -1.4794E-01  -9.2849E-01  1.1864E-01  -2.2153E-01
-1.0966E+00  -1.5149E+00  2.3932E-01
          -1.1313E+00  -7.5790E-03  -3.7087E-01  -1.6835E+00  -4.7602E-01
GRADIENT:  -1.6032E+01  2.5883E+01  -1.4997E+01  -6.5673E+01  3.2374E+00  -1.2221E+03  -5.7980E+01
-3.8985E+01  -1.1853E+01  1.0235E+01
          -1.3296E+01  1.6661E+01  -1.4967E+01  -2.8769E+02  -9.6280E+01
```

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0ITERATION NO.: 26      OBJECTIVE VALUE: 9529.00333452368      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 656
NPARAMETR:  5.4199E-03  2.7071E+00  1.9736E-02  2.4503E+00  1.1223E-02  6.0853E-01  1.4783E+00
4.7151E-02  2.1660E-02  4.9058E-01
          3.9954E-02  3.9746E-01  2.1600E-01  1.1558E-02  3.3519E-01
PARAMETER: -6.1111E-01  -2.7842E-03  -8.6139E-01  -1.0247E-01  -9.4265E-01  1.2171E-01  -2.0241E-01
-1.0806E+00  -1.4696E+00  9.0493E-02
          -1.1634E+00  -1.4763E-02  -3.1966E-01  -1.6721E+00  -4.4652E-01
GRADIENT:  3.1015E+01  9.4969E+00  -5.0466E+00  -3.4749E+01  5.7919E+00  -1.1998E+03  1.5554E+01
-3.2012E+01  -8.2330E+00  -1.4052E+01
          -8.2051E+00  1.5850E+01  -1.2614E+01  -2.1705E+02  -8.5183E+01
```

```

0ITERATION NO.: 27      OBJECTIVE VALUE: 9514.36888622222      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 683
NPARAMETR:  5.4637E-03  2.6622E+00  2.1305E-02  2.5103E+00  1.1339E-02  6.2772E-01  1.4710E+00
5.8814E-02  2.3442E-02  4.0929E-01
```

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      2.8752E-02  3.3356E-01  2.5720E-01  1.1944E-02  4.1700E-01
PARAMETER: -6.0124E-01 -1.9489E-02 -7.8093E-01 -7.8269E-02 -9.3139E-01  1.2554E-01 -2.0739E-01
-9.7011E-01 -1.4300E+00 -8.7528E-05
      -1.3280E+00 -1.0239E-01 -2.3237E-01 -1.6556E+00 -3.3734E-01
GRADIENT:  2.4161E+01 -5.1816E+01  1.2374E+01 -4.4885E+01  1.4640E+01 -7.8351E+02  1.8641E+01
-3.1859E+00 -6.4977E+00 -2.7496E+01
      -1.2003E+01  5.5784E+00 -5.4595E+00 -1.0202E+02 -5.8178E+01

0ITERATION NO.:  28      OBJECTIVE VALUE:  9505.87262583691      NO. OF FUNC. EVALS.:  33
CUMULATIVE NO. OF FUNC. EVALS.:  716
NPARAMETR:  5.5453E-03  2.6448E+00  2.3178E-02  2.5740E+00  1.1246E-02  6.5357E-01  1.4713E+00
5.9526E-02  2.3880E-02  4.3775E-01
      3.5063E-02  2.9674E-01  2.4871E-01  1.1928E-02  5.4431E-01
PARAMETER: -5.8312E-01 -2.6077E-02 -6.9273E-01 -5.3221E-02 -9.4041E-01  1.3071E-01 -2.0715E-01
-9.6410E-01 -1.4208E+00  3.3523E-02
      -1.2287E+00 -1.6087E-01 -2.4916E-01 -1.6563E+00 -2.0412E-01
GRADIENT:  3.0506E+01 -8.5818E+01  2.8409E+01 -3.2730E+01  1.8069E+01 -3.7994E+02  2.0531E+01
1.3436E+00 -5.8876E+00 -2.0180E+01
      -2.2084E+00 -2.9370E+00 -5.5333E+00 -5.5460E+01 -2.6643E+01

0ITERATION NO.:  29      OBJECTIVE VALUE:  9501.11196203878      NO. OF FUNC. EVALS.:  27
CUMULATIVE NO. OF FUNC. EVALS.:  743
NPARAMETR:  5.5611E-03  2.6582E+00  2.2022E-02  2.6187E+00  1.0831E-02  6.5628E-01  1.4513E+00
6.2580E-02  2.7155E-02  4.6386E-01
      2.8772E-02  2.9229E-01  3.0146E-01  1.2046E-02  7.0017E-01
PARAMETER: -5.7965E-01 -2.1014E-02 -7.4626E-01 -3.5974E-02 -9.8179E-01  1.3126E-01 -2.2087E-01
-9.3908E-01 -1.3565E+00  6.2488E-02
      -1.3276E+00 -1.6844E-01 -1.5299E-01 -1.6514E+00 -7.8213E-02
GRADIENT:  2.6523E+01 -6.0410E+01  1.4561E+01 -3.5859E+00  1.0135E+01 -4.2398E+02  4.3894E+00
7.6483E+00  1.2989E+00 -7.2584E+00
      -4.4082E+00 -4.6663E-01  2.4142E-01  6.8385E+00  1.2573E+00

0ITERATION NO.:  30      OBJECTIVE VALUE:  9499.28110045442      NO. OF FUNC. EVALS.:  27
CUMULATIVE NO. OF FUNC. EVALS.:  770
NPARAMETR:  5.5573E-03  2.6850E+00  2.1134E-02  2.6124E+00  1.0645E-02  6.8133E-01  1.4423E+00
6.1283E-02  2.7642E-02  4.7131E-01
      3.0894E-02  3.0363E-01  2.5590E-01  1.2004E-02  7.3824E-01
PARAMETER: -5.8049E-01 -1.0970E-02 -7.8939E-01 -3.8383E-02 -1.0009E+00  1.3627E-01 -2.2713E-01
-9.4955E-01 -1.3476E+00  7.0452E-02
      -1.2920E+00 -1.4939E-01 -2.3490E-01 -1.6531E+00 -5.1745E-02
GRADIENT:  1.2396E+01 -5.6834E+01  4.4818E+00 -2.7966E+01  5.3899E+00  1.1666E+02 -1.2236E+00
6.1317E+00  1.9750E+00 -2.2083E+00
      -3.5037E+00  1.9953E+00 -7.2136E+00  8.4123E+00  7.1284E+00

0ITERATION NO.:  31      OBJECTIVE VALUE:  9498.22005707284      NO. OF FUNC. EVALS.:  27
CUMULATIVE NO. OF FUNC. EVALS.:  797
NPARAMETR:  5.5648E-03  2.7351E+00  2.0885E-02  2.6472E+00  1.0395E-02  6.7586E-01  1.4303E+00
5.6214E-02  2.6081E-02  4.8890E-01
      3.5338E-02  2.9417E-01  2.7983E-01  1.2008E-02  7.2658E-01
PARAMETER: -5.7886E-01  7.5077E-03 -8.0187E-01 -2.5168E-02 -1.0271E+00  1.3517E-01 -2.3550E-01
-9.9272E-01 -1.3767E+00  8.8780E-02
      -1.2248E+00 -1.6523E-01 -1.9022E-01 -1.6529E+00 -5.9700E-02
GRADIENT:  9.2542E+00  4.5952E+00  1.8216E+00  1.3536E+01 -1.3184E+00 -2.1054E+02 -1.4861E+01
-2.5378E+00  1.4183E+00  2.1763E+00
      4.0330E-01  1.4093E-02 -3.7161E+00  5.5075E+00  4.4455E+00

0ITERATION NO.:  32      OBJECTIVE VALUE:  9497.97358748025      NO. OF FUNC. EVALS.:  27
CUMULATIVE NO. OF FUNC. EVALS.:  824
NPARAMETR:  5.5449E-03  2.7367E+00  2.0769E-02  2.6392E+00  1.0470E-02  6.7910E-01  1.4369E+00
5.7401E-02  2.5779E-02  4.8228E-01
      3.4161E-02  2.9716E-01  2.7528E-01  1.2012E-02  7.1090E-01
PARAMETER: -5.8321E-01  8.1184E-03 -8.0772E-01 -2.8172E-02 -1.0192E+00  1.3582E-01 -2.3083E-01
-9.8227E-01 -1.3825E+00  8.1961E-02
      -1.2418E+00 -1.6017E-01 -1.9842E-01 -1.6528E+00 -7.0610E-02
GRADIENT:  1.8712E+00  2.4700E+00  4.4531E-01  7.5326E+00 -6.4925E-03 -1.0996E+02 -6.9892E+00
-4.3756E-01  6.4712E-01  4.0798E-01
      -8.9533E-01  3.4444E-01 -4.7263E+00  2.7222E+00  2.2908E+00

0ITERATION NO.:  33      OBJECTIVE VALUE:  9497.84006984149      NO. OF FUNC. EVALS.:  27
CUMULATIVE NO. OF FUNC. EVALS.:  851
NPARAMETR:  5.5362E-03  2.7429E+00  2.0681E-02  2.6283E+00  1.0535E-02  6.8408E-01  1.4438E+00
5.8269E-02  2.5120E-02  4.7832E-01
```

```
      3.4459E-02  2.9756E-01  2.8459E-01  1.2091E-02  6.8350E-01
PARAMETER: -5.8513E-01  1.0360E-02 -8.1219E-01 -3.2319E-02 -1.0124E+00  1.3682E-01 -2.2603E-01
-9.7477E-01 -1.3955E+00  7.7836E-02
      -1.2374E+00 -1.5949E-01 -1.8178E-01 -1.6495E+00 -9.0266E-02
GRADIENT: -3.2345E+00  9.3776E-01 -7.8773E-01 -3.2076E+00  9.1661E-01  6.4611E+00  1.1768E+00
1.2718E+00 -1.2400E-01 -9.7036E-01
      -5.8712E-01 -9.0520E-02 -4.2049E+00  1.1917E+01 -5.3972E-01
```

```
0ITERATION NO.: 34      OBJECTIVE VALUE: 9497.71890688123      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 878
NPARAMETR: 5.5529E-03  2.7446E+00  2.0846E-02  2.6468E+00  1.0452E-02  6.8611E-01  1.4464E+00
5.7918E-02  2.5103E-02  4.8381E-01
      3.3642E-02  2.9479E-01  3.0545E-01  1.2058E-02  6.8882E-01
PARAMETER: -5.8147E-01  1.0977E-02 -8.0380E-01 -2.5314E-02 -1.0211E+00  1.3722E-01 -2.2427E-01
-9.7779E-01 -1.3958E+00  8.3545E-02
      -1.2494E+00 -1.6417E-01 -1.4641E-01 -1.6509E+00 -8.6385E-02
GRADIENT: -1.4115E+00  4.9339E+00  1.2193E-01  6.5135E+00 -4.9076E-01 -2.6537E+01  4.2311E+00
7.3601E-01  6.3710E-02 -6.3672E-02
      -1.1081E+00 -5.7844E-01 -2.2231E+00  7.0366E+00 -5.7517E-02
```

```
0ITERATION NO.: 35      OBJECTIVE VALUE: 9497.66990848631      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 905
NPARAMETR: 5.5586E-03  2.7432E+00  2.0833E-02  2.6440E+00  1.0431E-02  6.8650E-01  1.4450E+00
5.7657E-02  2.5058E-02  4.8710E-01
      3.4735E-02  2.9337E-01  3.1907E-01  1.2049E-02  6.8984E-01
PARAMETER: -5.8021E-01  1.0480E-02 -8.0448E-01 -2.6354E-02 -1.0233E+00  1.3730E-01 -2.2523E-01
-9.8005E-01 -1.3967E+00  8.6929E-02
      -1.2334E+00 -1.6658E-01 -1.2460E-01 -1.6513E+00 -8.5648E-02
GRADIENT: 3.8128E-01  1.8418E+00 -2.7078E-02  2.6486E+00 -9.0103E-01 -2.8302E+01  2.3605E+00
5.1198E-01  5.4560E-01  5.7849E-01
      2.4182E-01 -8.4810E-01 -4.9274E-01  6.0692E+00  1.9916E-01
```

```
0ITERATION NO.: 36      OBJECTIVE VALUE: 9497.65513427404      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 932
NPARAMETR: 5.5639E-03  2.7427E+00  2.0821E-02  2.6442E+00  1.0435E-02  6.8931E-01  1.4439E+00
5.7205E-02  2.4782E-02  4.8449E-01
      3.4596E-02  2.9500E-01  3.2986E-01  1.2025E-02  6.8667E-01
PARAMETER: -5.7905E-01  1.0283E-02 -8.0510E-01 -2.6280E-02 -1.0229E+00  1.3786E-01 -2.2598E-01
-9.8398E-01 -1.4022E+00  8.4239E-02
      -1.2354E+00 -1.6382E-01 -1.0797E-01 -1.6522E+00 -8.7950E-02
GRADIENT: 6.5839E-01 -1.6782E+00 -2.7785E-01 -4.3992E-01 -5.3817E-01  1.3213E+01  1.0204E+00
-3.6174E-01  3.3438E-01  1.4463E-01
      1.1553E-01 -4.0522E-01  2.5347E-01  7.5065E-01 -7.3051E-01
```

```
0ITERATION NO.: 37      OBJECTIVE VALUE: 9497.64939580771      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 959
NPARAMETR: 5.5593E-03  2.7430E+00  2.0813E-02  2.6424E+00  1.0448E-02  6.8837E-01  1.4438E+00
5.7358E-02  2.4706E-02  4.8446E-01
      3.4582E-02  2.9550E-01  3.2677E-01  1.2018E-02  6.9055E-01
PARAMETER: -5.8006E-01  1.0397E-02 -8.0549E-01 -2.6956E-02 -1.0215E+00  1.3767E-01 -2.2607E-01
-9.8264E-01 -1.4038E+00  8.4210E-02
      -1.2356E+00 -1.6297E-01 -1.1267E-01 -1.6525E+00 -8.5133E-02
GRADIENT: -9.4132E-02 -6.7762E-01 -2.0770E-01 -3.0814E-01 -3.7010E-01  3.8785E+00  1.0287E+00
-7.0075E-02  1.6770E-01  1.1473E-01
      1.0740E-01 -2.9928E-01  2.7061E-02  2.3432E-01 -2.0334E-01
```

```
0ITERATION NO.: 38      OBJECTIVE VALUE: 9497.64790984417      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 986
NPARAMETR: 5.5585E-03  2.7432E+00  2.0817E-02  2.6421E+00  1.0459E-02  6.8807E-01  1.4430E+00
5.7385E-02  2.4633E-02  4.8369E-01
      3.4474E-02  2.9626E-01  3.2600E-01  1.2017E-02  6.9236E-01
PARAMETER: -5.8023E-01  1.0493E-02 -8.0528E-01 -2.7079E-02 -1.0203E+00  1.3761E-01 -2.2658E-01
-9.8242E-01 -1.4053E+00  8.3416E-02
      -1.2372E+00 -1.6169E-01 -1.1386E-01 -1.6526E+00 -8.3827E-02
GRADIENT: -1.1602E-01 -2.7842E-01 -6.7894E-02 -3.8065E-02 -1.3726E-01 -5.6936E-01  1.6919E-01
-4.0769E-02  3.2235E-02  1.1491E-02
      -6.9684E-03 -9.5384E-02 -5.2779E-02  1.9606E-01 -1.2921E-02
```

```
0ITERATION NO.: 39      OBJECTIVE VALUE: 9497.64776999470      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 1013
NPARAMETR: 5.5588E-03  2.7435E+00  2.0821E-02  2.6421E+00  1.0464E-02  6.8815E-01  1.4430E+00
5.7394E-02  2.4594E-02  4.8362E-01
```

```

      3.4472E-02  2.9656E-01  3.2652E-01  1.2015E-02  6.9267E-01
PARAMETER: -5.8017E-01  1.0607E-02 -8.0506E-01 -2.7065E-02 -1.0198E+00  1.3763E-01 -2.2664E-01
-9.8233E-01 -1.4061E+00  8.3346E-02
      -1.2372E+00 -1.6118E-01 -1.1305E-01 -1.6526E+00 -8.3604E-02
GRADIENT: -1.0297E-01 -8.8352E-02 -1.5854E-02 -2.2531E-02 -4.4894E-02 -2.4031E-01  4.6651E-02
-2.0034E-02 -1.9655E-02 -5.5670E-03
      -8.7893E-03 -2.3964E-02 -1.5756E-02 -4.1609E-02  1.2304E-02

```

```

0ITERATION NO.: 40      OBJECTIVE VALUE: 9497.64775838760      NO. OF FUNC. EVALS.: 27
CUMULATIVE NO. OF FUNC. EVALS.: 1040
NPARAMETR: 5.5592E-03  2.7437E+00  2.0823E-02  2.6423E+00  1.0466E-02  6.8820E-01  1.4429E+00
5.7400E-02  2.4596E-02  4.8361E-01
      3.4476E-02  2.9665E-01  3.2671E-01  1.2016E-02  6.9258E-01
PARAMETER: -5.8008E-01  1.0652E-02 -8.0496E-01 -2.7023E-02 -1.0196E+00  1.3764E-01 -2.2667E-01
-9.8228E-01 -1.4060E+00  8.3331E-02
      -1.2372E+00 -1.6103E-01 -1.1277E-01 -1.6526E+00 -8.3669E-02
GRADIENT: -1.4640E-02 -4.5301E-02 -1.8308E-04  1.7607E-02  3.3812E-03 -8.0406E-02 -2.0034E-02
-7.6176E-03 -1.3331E-02 -5.7539E-03
      -4.0152E-03 -7.6086E-04 -1.1798E-03  4.0586E-03  2.6168E-03

```

```

0ITERATION NO.: 41      OBJECTIVE VALUE: 9497.64775838760      NO. OF FUNC. EVALS.: 18
CUMULATIVE NO. OF FUNC. EVALS.: 1058
NPARAMETR: 5.5592E-03  2.7437E+00  2.0823E-02  2.6423E+00  1.0466E-02  6.8820E-01  1.4429E+00
5.7400E-02  2.4596E-02  4.8361E-01
      3.4476E-02  2.9665E-01  3.2671E-01  1.2016E-02  6.9258E-01
PARAMETER: -5.8008E-01  1.0652E-02 -8.0496E-01 -2.7023E-02 -1.0196E+00  1.3764E-01 -2.2667E-01
-9.8228E-01 -1.4060E+00  8.3331E-02
      -1.2372E+00 -1.6103E-01 -1.1277E-01 -1.6526E+00 -8.3669E-02
GRADIENT: -1.4640E-02 -4.5301E-02 -1.8308E-04  1.7607E-02  3.3812E-03 -8.0406E-02 -2.0034E-02
-7.6176E-03 -1.3331E-02 -5.7539E-03
      -4.0152E-03 -7.6086E-04 -1.1798E-03  4.0586E-03  2.6168E-03

```

```

#TERM:
0MINIMIZATION SUCCESSFUL
NO. OF FUNCTION EVALUATIONS USED: 1058
NO. OF SIG. DIGITS IN FINAL EST.: 3.5

```

ETABAR IS THE ARITHMETIC MEAN OF THE ETA-ESTIMATES,
AND THE P-VALUE IS GIVEN FOR THE NULL HYPOTHESIS THAT THE TRUE MEAN IS 0.

```

ETABAR:      -5.5332E-03 -1.2898E-02 -9.4750E-03  3.9280E-03 -4.5534E-03 -2.1191E-02  0.0000E+00
SE:          2.6095E-02  1.2648E-02  7.1941E-02  1.4939E-02  4.6285E-02  4.1678E-02  0.0000E+00
N:           73          73          73          73          73          73          73

P VAL.:      8.3208E-01  3.0786E-01  8.9522E-01  7.9260E-01  9.2163E-01  6.1114E-01  1.0000E+00

ETASHRINKSD(%) 6.2958E+00  3.0617E+01  1.1000E+01  3.0783E+01  2.6890E+01  3.7269E+01  1.0000E+02
ETASHRINKVR(%) 1.2195E+01  5.1859E+01  2.0790E+01  5.2090E+01  4.6550E+01  6.0648E+01  1.0000E+02
EBVSHRINKSD(%) 6.7779E+00  3.1902E+01  1.1007E+01  3.1170E+01  2.6723E+01  3.6819E+01  0.0000E+00
EBVSHRINKVR(%) 1.3096E+01  5.3627E+01  2.0802E+01  5.2624E+01  4.6305E+01  6.0081E+01  0.0000E+00
EPSSHRINKSD(%) 8.0372E+00  7.7273E+00
EPSSHRINKVR(%) 1.5428E+01  1.4857E+01

```

```

TOTAL DATA POINTS NORMALLY DISTRIBUTED (N): 1692
N*LOG(2PI) CONSTANT TO OBJECTIVE FUNCTION: 3109.6879963646124
OBJECTIVE FUNCTION VALUE WITHOUT CONSTANT: 9497.6477583875985
OBJECTIVE FUNCTION VALUE WITH CONSTANT: 12607.335754752210
REPORTED OBJECTIVE FUNCTION DOES NOT CONTAIN CONSTANT

```

```

TOTAL EFFECTIVE ETAS (NIND*NETA): 378

```

```

#TERE:
Elapsed estimation time in seconds: 73.29
Elapsed covariance time in seconds: 25.80
Elapsed postprocess time in seconds: 5.50

```

```
#0BJV:*****9497.648
```

1

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*****  
*****  
*****  
*****  
***** FIRST ORDER CONDITIONAL ESTIMATION WITH INTERACTION *****  
*****  
***** FINAL PARAMETER ESTIMATE *****  
*****  
*****  
*****  
*****
```

THETA - VECTOR OF FIXED EFFECTS PARAMETERS *****

TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7
5.56E-03	2.74E+00	2.08E-02	2.64E+00	1.05E-02	6.88E-01	1.44E+00

OMEGA - COV MATRIX FOR RANDOM EFFECTS - ETAS *****

ETA1 ETA2 ETA3 ETA4 ETA5 ETA6 ETA7

ETA1
+ 5.74E-02

ETA2
+ 0.00E+00 2.46E-02

ETA3

+	0.00E+00	0.00E+00	4.84E-01				
ETA4							
+	0.00E+00	0.00E+00	0.00E+00	3.45E-02			
ETA5							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-01		
ETA6							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-01	
ETA7							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

SIGMA - COV MATRIX FOR RANDOM EFFECTS - EPSILONS ****

	EPS1	EPS2
EPS1		
+	1.20E-02	
EPS2		
+	0.00E+00	6.93E-01

1

OMEGA - CORR MATRIX FOR RANDOM EFFECTS - ETAS *****

	ETA1	ETA2	ETA3	ETA4	ETA5	ETA6	ETA7
ETA1							
+	2.40E-01						
ETA2							
+	0.00E+00	1.57E-01					
ETA3							
+	0.00E+00	0.00E+00	6.95E-01				
ETA4							
+	0.00E+00	0.00E+00	0.00E+00	1.86E-01			
ETA5							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-01		
ETA6							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-01	
ETA7							
+	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

SIGMA - CORR MATRIX FOR RANDOM EFFECTS - EPSILONS ***

	EPS1	EPS2
EPS1		
+	1.10E-01	
EPS2		
+	0.00E+00	8.32E-01

1


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*****
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***** FIRST ORDER CONDITIONAL ESTIMATION WITH INTERACTION
*****
***** STANDARD ERROR OF ESTIMATE
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THETA - VECTOR OF FIXED EFFECTS PARAMETERS *****

TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7
1.86E-04	7.44E-02	1.87E-03	8.05E-02	8.84E-04	2.94E-02	8.95E-02

OMEGA - COV MATRIX FOR RANDOM EFFECTS - ETAS *****

	ETA1	ETA2	ETA3	ETA4	ETA5	ETA6	ETA7
ETA1 +	1.03E-02						
ETA2 +		6.98E-03					
ETA3 +			2.05E-01				
ETA4 +				1.32E-02			
ETA5 +					7.43E-02		
ETA6 +						1.23E-01	
ETA7 +							

SIGMA - COV MATRIX FOR RANDOM EFFECTS - EPSILONS ****

	EPS1	EPS2
EPS1 +	1.41E-03	
EPS2 +	.....	3.12E-01

1

OMEGA - CORR MATRIX FOR RANDOM EFFECTS - ETAS *****

	ETA1	ETA2	ETA3	ETA4	ETA5	ETA6	ETA7
ETA1 +	2.15E-02						

```
ETA2
+      ..... 2.23E-02

ETA3
+      ..... 1.47E-01

ETA4
+      ..... 3.56E-02

ETA5
+      ..... 6.82E-02

ETA6
+      ..... 1.08E-01

ETA7
+      .....
```

SIGMA - CORR MATRIX FOR RANDOM EFFECTS - EPSILONS ***

```
      EPS1      EPS2

EPS1
+      6.43E-03

EPS2
+      ..... 1.87E-01
```

1

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*****
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*****
***** FIRST ORDER CONDITIONAL ESTIMATION WITH INTERACTION
*****
***** COVARIANCE MATRIX OF ESTIMATE
*****
*****
*****
*****
```

TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
OM13	OM14	OM15						
OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
OM34	OM35	OM36						
OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
OM67	OM77	SG11						
SG12	SG22							

```
TH 1
+      3.47E-08

TH 2
+      6.62E-06 5.54E-03

TH 3
+      -3.88E-08 -4.93E-06 3.50E-06

TH 4
+      1.79E-06 1.87E-03 2.50E-05 6.48E-03

TH 5
+      -3.49E-08 2.32E-06 7.52E-07 -3.79E-06 7.82E-07

TH 6
+      1.94E-06 8.37E-04 8.53E-06 8.51E-04 4.35E-06 8.63E-04
```

TH 7									
+	2.44E-06	1.93E-04	-4.41E-05	6.76E-04	-2.80E-05	-6.06E-04	8.01E-03		
OM11									
+	6.42E-07	5.51E-05	-7.78E-07	-2.32E-04	-1.48E-06	-7.99E-06	-2.57E-05	1.06E-04	
OM12									
+									
OM13									
+									
.....									
OM14									
+									
.....									
OM15									
+									
.....									
OM16									
+									
.....									
.....									
OM17									
+									
.....									
.....									
OM22									
+	2.21E-07	1.19E-04	-7.37E-07	1.17E-04	-6.14E-08	7.06E-06	-1.70E-05	-8.18E-06	.....
.....									
.....			4.88E-05						
OM23									
+									
.....									
.....									
OM24									
+									
.....									
.....									
OM25									
+									
.....									
.....									
1									
	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
	OM13	OM14	OM15						
	OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
	OM34	OM35	OM36						
	OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
	OM67	OM77	SG11						
	SG12	SG22							
OM26									
+									
.....									
.....									
OM27									
+									
.....									
.....									
OM33									

+	-5.79E-06	-1.14E-03	1.31E-04	-2.01E-03	5.50E-05	-1.32E-03	-6.18E-03	2.29E-04	.....
.....	.....	.....	7.99E-05	.....	.....	.....	.....	4.20E-02	
OM34									
+									
.....									
.....									
OM35									
+									
.....									
.....									
OM36									
+									
.....									
.....									
OM37									
+									
.....									
.....									
OM44									
+	8.79E-07	5.11E-05	3.84E-07	-2.60E-04	-1.72E-06	-3.71E-06	1.79E-04	6.22E-05	.....
.....	.....	.....	-1.10E-05	.....	.....	.....	.....	.....	-3.13E-04
.....									
.....	.....	1.75E-04	.....	.....	.....	.....	.....	.....	.....
OM45									
+									
.....									
.....									
OM46									
+									
.....									
.....									
OM47									
+									
.....									
.....									
OM55									
+	-6.05E-08	-2.34E-04	2.57E-05	-1.02E-03	-3.78E-07	-5.20E-04	-2.25E-03	9.44E-05	.....
.....	.....	.....	-4.01E-05	.....	.....	.....	.....	.....	9.25E-03
.....									
.....	.....	-1.01E-04	.....	.....	.....	5.52E-03	.....	.....	.....
OM56									
+									
.....									
.....									
OM57									

[illegible]

1

	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
	OM13	OM14	OM15						
	OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
	OM34	OM35	OM36						
	OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
	OM67	OM77	SG11						
	SG12	SG22							

OM66										
+	2.27E-07	1.44E-03	-1.62E-05	1.09E-03	2.19E-06	2.06E-03	-8.08E-04	-2.64E-04	.....	
.....										
.....			-1.32E-04	.....						-2.68E-03
.....										
.....		-4.06E-04	.....			-1.18E-04	.....			1.51E-02

OM67

+

.....

.....
.....

.....
.....

.....
.....

OM77
+
.....
.....
.....
.....

SG11									
+	1.98E-08	1.39E-05	-7.58E-07	-1.35E-05	-1.48E-07	9.21E-06	-4.75E-06	1.01E-06	
.....			-8.08E-07						-6.35E-05
.....		6.90E-07				-7.33E-06			6.65E-05
.....		1.99E-06							

```
SG12
+      .....
.....
.....
.....
.....
.....
.....
.....
```

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SG22
+      -3.86E-06 -2.20E-03  9.96E-05 -5.84E-03  7.69E-05 -1.88E-03 -9.37E-03  6.66E-04 .....
.....
.....      2.49E-04 .....
.....
.....      -2.12E-04 .....      8.85E-03 .....      -7.35E-03
.....      -1.58E-04
.....      9.73E-02

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1 *****
*****
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*****
***** FIRST ORDER CONDITIONAL ESTIMATION WITH INTERACTION
*****
*****
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CORRELATION MATRIX OF ESTIMATE

	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
	OM13	OM14	OM15						
	OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
	OM34	OM35	OM36						
	OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
	OM67	OM77	SG11						
	SG12	SG22							
TH 1									
+ 1.86E-04									
TH 2									
+ 4.77E-01 7.44E-02									
TH 3									
+ -1.11E-01 -3.54E-02 1.87E-03									
TH 4									
+ 1.20E-01 3.12E-01 1.66E-01 8.05E-02									
TH 5									
+ -2.12E-01 3.53E-02 4.54E-01 -5.32E-02 8.84E-04									
TH 6									
+ 3.55E-01 3.83E-01 1.55E-01 3.60E-01 1.67E-01 2.94E-02									
TH 7									
+ 1.46E-01 2.90E-02 -2.63E-01 9.38E-02 -3.54E-01 -2.30E-01 8.95E-02									
OM11									
+ 3.35E-01 7.20E-02 -4.05E-02 -2.80E-01 -1.62E-01 -2.65E-02 -2.79E-02 1.03E-02									
OM12									
+									
OM13									
+									
.....									
OM14									
+									
.....									
OM15									
+									
.....									
OM16									
+									
.....									
.....									
OM17									
+									
.....									
.....									
OM22									
+ 1.70E-01 2.29E-01 -5.64E-02 2.08E-01 -9.94E-03 3.44E-02 -2.72E-02 -1.14E-01									
.....									
.....									
.....									
OM23									
+									
.....									

+									
.....									
OM24	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM25	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
1	.....	.....	.....	.....	.....	.....	.....	.....	.....
TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12	
OM13	OM14	OM15							
OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33	
OM34	OM35	OM36							
OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66	
OM67	OM77	SG11							
SG12	SG22								
OM26	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM27	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM33	.....	.....	.....	.....	.....	.....	.....	.....	.....
+	-1.52E-01	-7.47E-02	3.42E-01	-1.22E-01	3.04E-01	-2.20E-01	-3.37E-01	1.09E-01	.....
.....									
.....	.....	5.58E-02	.....	.....	.....	.....	.....	.....	2.05E-01
OM34	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM35	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM36	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM37	.....	.....	.....	.....	.....	.....	.....	.....	.....
+									
.....									
OM44	.....	.....	.....	.....	.....	.....	.....	.....	.....
+	3.57E-01	5.19E-02	1.55E-02	-2.45E-01	-1.47E-01	-9.54E-03	1.52E-01	4.58E-01	.....
.....									
.....	.....	.....	-1.20E-01	.....	.....	.....	.....	.....	-1.16E-01
.....									
.....	1.32E-02	.....	.....	.....	.....	.....	.....	.....	.....
OM45	.....	.....	.....	.....	.....	.....	.....	.....	.....

OM11									
+	-1.59E+05	-1.29E+02	-2.95E+03	3.73E+02	3.79E+04	-9.13E+02	1.93E+01	1.59E+04	
OM12									
+									
OM13									
+									
.....									
OM14									
+									
.....									
OM15									
+									
.....									
OM16									
+									
.....									
.....									
OM17									
+									
.....									
.....									
OM22									
+	-2.00E+05	-4.27E+02	6.97E+03	-2.32E+02	1.97E+04	-8.85E+01	1.89E+02	3.56E+03	.....
.....									
.....			2.63E+04						
OM23									
+									
.....									
.....									
OM24									
+									
.....									
.....									
OM25									
+									
.....									
.....									
1									
	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
	OM13	OM14	OM15						
	OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
	OM34	OM35	OM36						
	OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
	OM67	OM77	SG11						
	SG12	SG22							
OM26									
+									
.....									
.....									
OM27									
+									
.....									
.....									
OM33									
+	1.04E+04	-4.04E+00	-1.85E+03	-2.86E+01	-2.21E+03	6.30E+01	-1.58E+01	-1.15E+01	.....
.....									

	.....	-1.02E+02	.....	.....	.....	.....	.....	.....	.....	1.02E+02
OM34										
+										
										
										
										
OM35										
+										
										
										
										
OM36										
+										
										
										
										
OM37										
+										
										
										
										
OM44										
+	-1.83E+05	-1.76E+01	-1.18E+04	4.39E+02	1.62E+04	-4.51E+02	-1.19E+02	-3.07E+03	.....	
										
	.....		2.08E+03	.....	.....	.....	.....	.....	-3.20E+01	
										
	.....	9.61E+03								
OM45										
+										
										
										
										
OM46										
+										
										
										
										
OM47										
+										
										
										
										
OM55										
+	-4.60E+04	-2.30E+01	-1.84E+03	3.39E+01	7.70E+03	4.14E+02	1.21E+02	-6.51E+01	.....	
										
	.....		4.68E+02	.....	.....	.....	.....	.....	-1.03E+02	
										
	.....	2.77E+02	.....	.....	.....	4.23E+02				
OM56										
+										
										
										
										
OM57										
+										
										

1									
	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	OM11	OM12
	OM13	OM14	OM15						
	OM16	OM17	OM22	OM23	OM24	OM25	OM26	OM27	OM33
	OM34	OM35	OM36						
	OM37	OM44	OM45	OM46	OM47	OM55	OM56	OM57	OM66
	OM67	OM77	SG11						
	SG12	SG22							
OM66									
+	1.91E+04	-8.06E+00	1.03E+03	3.76E+01	2.18E+03	-5.20E+02	-4.61E+01	3.35E+02	.....
			3.99E+02						-6.31E+00
		2.65E+02				-4.99E+01			1.60E+02
OM67									
+									
OM77									
+									
SG11									
+	5.34E+04	-1.24E+03	1.74E+05	2.75E+03	-2.71E+04	-3.85E+02	2.42E+03	-1.80E+04	.....
			-5.98E+03						-1.84E+03
		-3.14E+03				1.27E+03			-3.06E+03
			8.41E+05						
SG12									
+									
SG22									
+	-5.39E+03	3.81E+00	9.98E+02	2.05E+01	-7.96E+02	8.35E+00	2.05E+01	-1.46E+02	.....
			-9.59E+01						-4.32E+01
		4.02E+01				2.64E+01			-2.32E+00
			2.29E+03						
		3.73E+01							
1									

EIGENVALUES OF COR MATRIX OF ESTIMATE

```
Elapsed finaloutput time in seconds:      0.64
1THERE ARE ERROR MESSAGES IN FILE PRDERR
#CPUT: Total CPU Time in Seconds,      249.213
Stop Time:
So 23. Aug 11:00:41 CEST 2020
```