```
 1  000000I         SUBROUTINE DIRCCS                                                  204
 2  000004I         COMMON                                                             205
 3                 1/TUR/ SIGK,SIGE,CMU,C1,C2,CMU1,CMU2,E,CK,HINUM,SMNUM,ANV1(800),   206
 4                 2 YN(800),YN1(800),SINX(800),SINY(800),SINZ(800),ANW1(800),        207
 5                 3 YPLN(800),TAUN(800),IBC(800),JBC(800),KBC(800),IITY(800),        208
 6                 4 TAUW(800),GEN(21,18,10),MC(21,18,10),IJLO(21,18,10),IITO         209
 7                 1/TRAN/ X(21,18,10),Y(21,18,10),Z(21,18,10),TJO(21,18,10),         210
 8                 2   CX(21,18,10),CY(21,18,10),CZ(21,18,10),                        211
 9                 3   EX(21,18,10),EY(21,18,10),EZ(21,18,10),                        212
10                 3   SX(21,18,10),SY(21,18,10),SZ(21,18,10)                         213
11                 1/LIMT/ L,M,LT,MT,L1,L2,M1,M2,LC,MO,ISWU,ISWV,ISWP,ISWK,ISWE,       214
12                 2   ALU,ALV,ALP,ALK,ALE,ALVIS,ALW,N,N1,N2,NO,ISWW,IG,NT,ALC,DTT    215
13              C-----SET DOMAIN BLOCKAGE CONTROL PARAMETER                           216
14              C-----SCALAR BLOCKAGE :   MC(I,J,K)=1                                 217
15              C-----PRESSURE BLOCKAGE : MC(I,J,K)=2                                 218
16  000004I         DO 10 I=1,LO                                                       219        1
17  000018I         DO 10 J=1,MO                                                       220        2
18  00002CI         DO 10 K=1,NO                                                       221        3
19  000040I         MC(I,J,K)=0                                                        222        4
20  000068I         IF(J.EQ.1.OR.J.EQ.M.OR.K.EQ.N) MC(I,J,K)=1                         223        5
21  0000C4I         IF(I.GE.L1.AND.I.LE.L2.AND.J.GE.M1.AND.J.LE.M2.AND.                224        7
22                 1   K.GE.N1.AND.K.LE.N2) MC(I,J,K)=1                               225
23  000158I         IF(I.GT.L1.AND.I.LE.L2.AND.J.GT.M1.AND.J.LE.M2.AND.                226        9
24                 1   K.GT.N1.AND.K.LE.N2) MC(I,J,K)=2                               227
25              C-----ADD BLOCKAGES AS NEEDED HERE                                    228
26  0001ECI       10  CONTINUE                                                       229       11
27              C-----CALCULATE BOUNDARY GRID SIZES AND ORIENTATIONS                  230
28  000234I         III=1                                                              231       12
29  00023CI         DO 30 I=2,LT                                                       232       13
30  000250I         DO 30 J=2,MT                                                       233       14
31  000264I         DO 30 K=2,NT                                                       234       15
32  000278I         IF(MC(I,J,K) .NE. 0) GO TO 30                                      235       16
33  0002AEI         MCT=MC(I+1,J,K)+MC(I-1,J,K)+MC(I,J+1,K)+MC(I,J-1,K)+               236       18
34                 1    MC(I,J,K+1)+MC(I,J,K-1)                                       237
35  0003ACI         IF(MCT .EQ. 0) GO TO 30                                            238       19
36  0003C2I         IF(MC(I,J+1,K) .EQ. 0) GO TO 2                                     239       21
37              C-----NORTH                                                           240
38  0003FCI         IBC(III)=I                                                         241       23
39  000410I         JBC(III)=J                                                         242       24
40  000424I         KBC(III)=K                                                         243       25
41  000438I         IITY(III)=1                                                        244       26
42  000448I         I1=I+1                                                             245       27
43  000456I         I2=I-1                                                             246       28
44  000464I         K1=K+1                                                             247       29
45  000472I         K2=K-1                                                             248       30
46  000480I         IF(I .EQ. L1) I2=I                                                 249       31
47  00049EI         IF(I .EQ. L2) I1=I                                                 250       33
48  00048CI         IF(K .EQ. N1) K2=K                                                 251       35
49  00040AI         IF(K .EQ. N2) K1=K                                                 252       37
50  0004F8I         J1=J-1                                                             253       39
51  000506I         J2=J-2                                                             254       40
52  000514I         P1=(Y(I1,J,K1)-Y(I1,J,K2))*(Z(I1,J,K2)-Z(I2,J,K))-                255       41
53                 1   (Z(I1,J,K1)-Z(I1,J,K2))*(Y(I1,J,K2)-Y(I2,J,K))                 256
54  000650I         P2=(Z(I1,J,K1)-Z(I1,J,K2))*(X(I1,J,K2)-X(I2,J,K))-                 257       42
55                 1   (X(I1,J,K1)-X(I1,J,K2))*(Z(I1,J,K2)-Z(I2,J,K))                 258
56  00078CI         P3=(X(I1,J,K1)-X(I1,J,K2))*(Y(I1,J,K2)-Y(I2,J,K))-                 259       43
57                 1   (Y(I1,J,K1)-Y(I1,J,K2))*(X(I1,J,K2)-X(I2,J,K))                 260
```