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Numerische Optimierung

Implementation 4

Für DONLP2 ergibt sich etwa als Problembeschreibung:

```
      SUBROUTINE SETUP
      RETURN
      END
      SUBROUTINE EF(X,FX)
      INCLUDE 'O8FUCO.INC'
      DOUBLE PRECISION X(*),FX
      ICF=ICF+1
      FX=-X(1)*(2.5D0*DEXP(-X(1))+0.5D0)
     &   -X(2)*(5.D0*DEXP(-0.5D0*X(2))-2.D0)
      RETURN
      END
      SUBROUTINE EGRADF(X,GRADF)
      INCLUDE 'O8FUCO.INC'
      DOUBLE PRECISION X(*),GRADF(*)
      ICGF=ICGF+1
      GRADF(1)=-(2.5D0*DEXP(-X(1))+0.5D0)
     &   +2.5D0*X(1)*DEXP(-X(1))
      GRADF(2)=-(5.D0*DEXP(-0.5D0*X(2))-2.D0)
     &   +2.5D0*X(2)*DEXP(-0.5D0*X(2))
      RETURN
      END
      SUBROUTINE EH(I,X,HXI)
      INCLUDE 'O8FUCO.INC'
      INTEGER I
      DOUBLE PRECISION X(*),HXI
      RETURN
      END
```

```
 SUBROUTINE EGRADH(I,X,GRADHI)
 INCLUDE 'O8FUCO.INC'
 INTEGER I
 DOUBLE PRECISION X(*),GRADHI(*)
 RETURN
 END
 SUBROUTINE EG(I,X,GXI)
 INCLUDE 'O8FUCO.INC'
 INTEGER I
 DOUBLE PRECISION X(*),GXI
 CRES(I+NH)=CRES(I+NH)+1
 IF (I.EQ.1) GXI=5.D0-X(1)**2-0.5*X(1)*X(2)-2.D0*X(2)**3
 IF (I.EQ.2) GXI=X(1)
 IF (I.EQ.3) GXI=X(2)
 RETURN
 END
 SUBROUTINE EGRADG(I,X,GRADGI)
 INCLUDE 'O8FUCO.INC'
 INTEGER I
 DOUBLE PRECISION X(*) ,GRADGI(*)
 CGRES(I+NH)=CGRES(I+NH)+1
 GRADGI(1)=0.D0
 GRADGI(2)=0.D0
 IF (I.EQ.1) THEN
 GRADGI(1)=-2.D0*X(1)-0.5D0*X(2)
 GRADGI(2)=-0.5D0*X(1)-6.D0*X(2)**2
 ENDIF
 IF (I.EQ.2) GRADGI(1)=1.D0
 IF (I.EQ.3) GRADGI(2)=1.D0
 RETURN
 END
 BLOCK DATA
 INCLUDE 'O8BLOC.INC'
 INTEGER I,J
 DATA NAME/'CHEMIE'/
 DATA X(1),X(2)/1.D0,1.D0/
 DATA N/2/ , NH/0/ , NG/3/
 DATA DEL0/1.00D-1/ ,TAU0/0.5D0/ ,TAU/.1D0/
 DATA ((GUNIT(I,J),I=1,3),J=0,3)
&  /-1,0,0,-1,0,0,-1,0,0,-1,0,0/
 END
 SUBROUTINE SETUP0
 INCLUDE 'O8COMM.INC'
 ANALYT=.TRUE.
 EPSDIF=0.D0
 PROU=10
 MEU=20
 NRESET=4
 SILENT=.FALSE.
 RETURN
 END
```