

3.1. DISTANCES, ANGLES, AND THEIR STANDARD UNCERTAINTIES

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DIMENSION X(3),Y(3),G(3,3),SUM(3)
READ (5,10)(X(I),I = 1,3)
READ (5,10)(Y(I),I = 1,3)
READ (5,10)((G(I,J),J = 1,3),I = 1,3)
10 FORMAT (3F10.5)
DO 20 I = 1,3
20 SUM(I) = 0
DO 30 I = 1,3
DO 30 J = 1,3
SUM(1) = SUM(1) + X(I) * X(J) * G(I,J)
SUM(2) = SUM(2) + Y(I) * Y(J) * G(I,J)
SUM(3) = SUM(3) + X(I) * Y(J) * G(I,J)
30 CONTINUE
DIST1 = SQRT(SUM(1))
DIST2 = SQRT(SUM(2))
ANGLE = 57.296 * ACOS(SUM(3)/(DIST1 * DIST2))
WRITE (6,10) DIST1,DIST2,ANGLE
END

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