

CURVA -4
 $R = 0+147.42$
 $\Delta = 130^{\circ} 0' 0''$
 $ST = 16.638$
 $RE = 19.103$

CURVA -5
 $R = 0+147.42$
 $\Delta = 49^{\circ} 16' 48''$
 $ST = 17.327$
 $RE = 32.271$

CURVA -6
 $R = 0+253.29$
 $\Delta = 46^{\circ} 0' 0''$
 $ST = 11.623$
 $RE = 22.240$

CURVA -7
 $R = 0+265.30$
 $\Delta = 19^{\circ} 0' 0''$
 $ST = 18.393$
 $RE = 32.043$

CURVA -8
 $R = 0+265.30$
 $\Delta = 34^{\circ} 34' 34''$
 $ST = 15.946$
 $RE = 31.109$

Diagrama de un eje de carretera con una curva de transición. Se muestran las curvas de alineación (1, 2, 3) y la curva de transición (4). Se indican los puntos de tangencia (P.T.) y los ejes de las curvas. Se especifica el tipo de tubo de 150mm normal en tangente.

Curva 1:

- PI = 0+054.50
- PC = 0+031.91
- PT = 0+087.00
- Re = 150.986
- ST = 0.121
- Lo = 16.532

Curva 2:

- PI = 0+113.91
- PC = 0+087.00
- PT = 0+150.359
- Re = 165.2' 0"
- ST = 100.359

Curva 3:

- PI = 0+150.359
- PC = 0+121.00
- PT = 0+178.50
- Re = 165.2' 0"
- ST = 100.359

Curva 4:

- PI = 0+178.50
- PC = 0+150.359
- PT = 0+200.00
- Re = 165.2' 0"
- ST = 100.359

Curva 5:

- PI = 0+200.00
- PC = 0+178.50
- PT = 0+221.50
- Re = 165.2' 0"
- ST = 100.359

Curva 6:

- PI = 0+221.50
- PC = 0+200.00
- PT = 0+243.00
- Re = 165.2' 0"
- ST = 100.359

Curva 7:

- PI = 0+243.00
- PC = 0+221.50
- PT = 0+264.50
- Re = 165.2' 0"
- ST = 100.359

Curva 8:

- PI = 0+264.50
- PC = 0+243.00
- PT = 0+286.00
- Re = 165.2' 0"
- ST = 100.359

Curva 9:

- PI = 0+286.00
- PC = 0+264.50
- PT = 0+307.50
- Re = 165.2' 0"
- ST = 100.359

Curva 10:

- PI = 0+307.50
- PC = 0+286.00
- PT = 0+329.00
- Re = 165.2' 0"
- ST = 100.359

Curva 11:

- PI = 0+329.00
- PC = 0+307.50
- PT = 0+350.50
- Re = 165.2' 0"
- ST = 100.359

Curva 12:

- PI = 0+350.50
- PC = 0+329.00
- PT = 0+372.00
- Re = 165.2' 0"
- ST = 100.359

Curva 13:

- PI = 0+372.00
- PC = 0+350.50
- PT = 0+393.50
- Re = 165.2' 0"
- ST = 100.359

Curva 14:

- PI = 0+393.50
- PC = 0+372.00
- PT = 0+415.00
- Re = 165.2' 0"
- ST = 100.359

Curva 15:

- PI = 0+415.00
- PC = 0+393.50
- PT = 0+436.50
- Re = 165.2' 0"
- ST = 100.359

Curva 16:

- PI = 0+436.50
- PC = 0+415.00
- PT = 0+458.00
- Re = 165.2' 0"
- ST = 100.359

Curva 17:

- PI = 0+458.00
- PC = 0+436.50
- PT = 0+479.50
- Re = 165.2' 0"
- ST = 100.359

Curva 18:

- PI = 0+479.50
- PC = 0+458.00
- PT = 0+501.00
- Re = 165.2' 0"
- ST = 100.359

Curva 19:

- PI = 0+501.00
- PC = 0+479.50
- PT = 0+522.50
- Re = 165.2' 0"
- ST = 100.359

Curva 20:

- PI = 0+522.50
- PC = 0+501.00
- PT = 0+544.00
- Re = 165.2' 0"
- ST = 100.359

Curva 21:

- PI = 0+544.00
- PC = 0+522.50
- PT = 0+565.50
- Re = 165.2' 0"
- ST = 100.359

Curva 22:

- PI = 0+565.50
- PC = 0+544.00
- PT = 0+587.00
- Re = 165.2' 0"
- ST = 100.359

Curva 23:

- PI = 0+587.00
- PC = 0+565.50
- PT = 0+608.50
- Re = 165.2' 0"
- ST = 100.359

Curva 24:

- PI = 0+608.50
- PC = 0+587.00
- PT = 0+630.00
- Re = 165.2' 0"
- ST = 100.359

Curva 25:

- PI = 0+630.00
- PC = 0+608.50
- PT = 0+651.50
- Re = 165.2' 0"
- ST = 100.359

Curva 26:

- PI = 0+651.50
- PC = 0+630.00
- PT = 0+673.00
- Re = 165.2' 0"
- ST = 100.359

Curva 27:

- PI = 0+673.00
- PC = 0+651.50
- PT = 0+694.50
- Re = 165.2' 0"
- ST = 100.359

Curva 28:

- PI = 0+694.50
- PC = 0+673.00
- PT = 0+716.00
- Re = 165.2' 0"
- ST = 100.359

Curva 29:

- PI = 0+716.00
- PC = 0+694.50
- PT = 0+737.50
- Re = 165.2' 0"
- ST = 100.359

Curva 30:

- PI = 0+737.50
- PC = 0+716.00
- PT = 0+759.00
- Re = 165.2' 0"
- ST = 100.359

Curva 31:

- PI = 0+759.00
- PC = 0+737.50
- PT = 0+780.50
- Re = 165.2' 0"
- ST = 100.359

Curva 32:

- PI = 0+780.50
- PC = 0+759.00
- PT = 0+802.00
- Re = 165.2' 0"
- ST = 100.359

Curva 33:

- PI = 0+802.00
- PC = 0+780.50
- PT = 0+823.50
- Re = 165.2' 0"
- ST = 100.359

Curva 34:

- PI = 0+823.50
- PC = 0+802.00
- PT = 0+845.00
- Re = 165.2' 0"
- ST = 100.359

Curva 35:

- PI = 0+845.00
- PC = 0+823.50
- PT = 0+866.50
- Re = 165.2' 0"
- ST = 100.359


Curva 36:

- PI = 0+866.50
- PC = 0+845.00
- PT = 0+888.00
- Re = 165.2' 0"
- ST = 100.359

Curva 37:

- PI = 0+888.00
- PC = 0+866.50
- PT = 0+909.50
- Re = 165.2' 0"
- ST = 100.359

<



 01000000
 TUBO DE $\varnothing = 1200$
 NORMAL EN TANGENTE

BN 0-1 UBICADO A 17.64 MTS. A LA D.O. DE LA ESTACION 0+107.67
 SOBRE VARIANTE ENGRANDECIERA DE CONCRETO
 ELEV. PRON. = 1039.957 MTS

0+000.00
0+050.00
0+100.00
0+150.00
0+200.00
0+250.00
0+300.00
0+350.70
0+400.00
0+450.00
0+500.00
0+550.00
0+600.00
0+650.00
0+700.00
0+750.00
0+800.00
0+850.00
0+900.00
0+950.00
1+000.00
1+050.00
1+100.00
1+150.00
1+200.00
1+250.00
1+300.00
1+350.00
1+400.00
1+450.00
1+500.00
1+550.00
1+600.00
1+650.00
1+700.00
1+750.00
1+800.00
1+850.00
1+900.00
1+950.00
2+000.00
2+050.00
2+100.00
2+150.00
2+200.00
2+250.00
2+300.00
2+350.00
2+400.00
2+450.00
2+500.00
2+550.00
2+600.00
2+650.00
2+700.00
2+750.00
2+800.00
2+850.00
2+900.00
2+950.00
3+000.00
3+050.00
3+100.00
3+150.00
3+200.00
3+250.00
3+300.00
3+350.00
3+400.00
3+450.00
3+500.00
3+550.00
3+600.00
3+650.00
3+700.00
3+750.00
3+800.00
3+850.00
3+900.00
3+950.00
4+000.00
4+050.00
4+100.00
4+150.00
4+200.00
4+250.00
4+300.00
4+350.00
4+400.00
4+450.00
4+500.00
4+550.00
4+600.00
4+650.00
4+700.00
4+750.00
4+800.00
4+850.00
4+900.00
4+950.00
5+000.00
5+050.00
5+100.00
5+150.00
5+200.00
5+250.00
5+300.00
5+350.00
5+400.00
5+450.00
5+500.00
5+550.00
5+600.00
5+650.00
5+700.00
5+750.00
5+800.00
5+850.00
5+900.00
5+950.00
6+000.00
6+050.00
6+100.00
6+150.00
6+200.00
6+250.00
6+300.00
6+350.00
6+400.00
6+450.00
6+500.00
6+550.00
6+600.00
6+650.00
6+700.00
6+750.00
6+800.00
6+850.00
6+900.00
6+950.00
7+000.00
7+050.00
7+100.00
7+150.00
7+200.00
7+250.00
7+300.00
7+350.00
7+400.00
7+450.00
7+500.00
7+550.00
7+600.00
7+650.00
7+700.00
7+750.00
7+800.00
7+850.00
7+900.00
7+950.00
8+000.00
8+050.00
8+100.00
8+150.00
8+200.00
8+250.00
8+300.00
8+350.00
8+400.00
8+450.00
8+500.00
8+550.00
8+600.00
8+650.00
8+700.00
8+750.00
8+800.00
8+850.00
8+900.00
8+950.00
9+000.00
9+050.00
9+100.00
9+150.00
9+200.00
9+250.00
9+300.00
9+350.00
9+400.00
9+450.00
9+500.00
9+550.00
9+600.00
9+650.00
9+700.00
9+750.00
9+800.00
9+850.00
9+900.00
9+950.00
10+000.00
10+050.00
10+100.00
10+150.00
10+200.00
10+250.00
10+300.00
10+350.00
10+400.00
10+450.00
10+500.00
10+550.00
10+600.00
10+650.00
10+700.00
10+750.00
10+800.00
10+850.00
10+900.00
10+950.00
11+000.00
11+050.00
11+100.00
11+150.00
11+200.00
11+250.00
11+300.00
11+350.00
11+400.00
11+450.00
11+500.00
11+550.00
11+600.00
11+650.00
11+700.00
11+750.00
11+800.00
11+850.00
11+900.00
11+950.00
12+000.00
12+050.00
12+100.00
12+150.00
12+200.00
12+250.00
12+300.00
12+350.00
12+400.00
12+450.00
12+500.00
12+550.00
12+600.00
12+650.00
12+700.00
12+750.00
12+800.00
12+850.00
12+900.00
12+950.00
13+000.00
13+050.00
13+100.00
13+150.00
13+200.00
13+250.00
13+300.00
13+350.00
13+400.00
13+450.00
13+500.00
13+550.00
13+600.00
13+650.00
13+700.00
13+750.00
13+800.00
13+850.00
13+900.00
13+950.00
14+000.00
14+050.00
14+100.00
14+150.00
14+200.00
14+250.00
14+300.00
14+350.00
14+400.00
14+450.00
14+500.00
14+550.00
14+600.00
14+650.00
14+700.00
14+750.00
14+800.00
14+850.00
14+900.00
14+950.00
15+000.00
15+050.00
15+100.00
15+150.00
15+200.00
15+250.00
15+300.00
15+350.00
15+400.00
15+450.00
15+500.00
15+550.00
15+600.00
15+650.00
15+700.00
15+750.00
15+800.00
15+850.00
15+900.00
15+950.00
16+000.00
16+050.00
16+100.00
16+150.00
16+200.00
16+250.00
16+300.00
16+350.00
16+400.00
16+450.00
16+500.00
16+550.00
16+600.00
16+650.00
16+700.00
16+750.00
16+800.00
16+850.00
16+900.00
16+950.00
17+000.00
17+050.00
17+100.00
17+150.00
17+200.00
17+250.00
17+300.00
17+350.00
17+400.00
17+450.00
17+500.00
17+550.00
17+600.00
17+650.00
17+700.00
17+750.00
17+800.00
17+850.00
17+900.00
17+950.00
18+000.00
18+050.00
18+100.00
18+150.00
18+200.00
18+250.00
18+300.00
18+350.00
18+400.00
18+450.00
18+500.00
18+550.00
18+600.00
18+650.00
18+700.00
18+750.00
18+800.00
18+850.00
18+900.00
18+95

[illegible]

REFERENCIAS DEL EJE DE TRAZA

[illegible]

Figure 1 consists of two subplots, (a) and (b), each showing a 3D plot of a sphere with a grid of points. The points are colored red and blue, representing different data sets. The axes are labeled x, y, and z. In subplot (a), the red points are concentrated on the left side of the sphere, while the blue points are concentrated on the right side. In subplot (b), the red points are concentrated on the top side of the sphere, while the blue points are concentrated on the bottom side. Both plots show a clear separation between the red and blue points, indicating that the two methods are effective in distinguishing between different data sets.