In[1]:=
```
(*p.79, Eq3-17の計算*)
```

In[2]:=
```
Clear["Global`*"];
Do[
  lambda = 10 * ilamb * Pi / 180;
  (*If[ilamb==0,lambda=0.01];*)
  p = Sin[Pi / 4 + lambda / 2];
  Print["lambda= ", lambda * 180 / Pi]; Print[" psi0    Pl^2/EI"];
  lstpdata[ilamb] = {};
  Do[
   n = ArcSin[(Cos[(psi0 - lambda) / 2] - Sin[(psi0 - lambda) / 2]) /
       (Cos[lambda / 2] + Sin[lambda / 2])];
   Lphi = EllipticF[n, p * p] - EllipticK[p * p] + 2 * EllipticE[p * p] -
     2 * EllipticE[n, p * p];
   Ltht = Cos[psi0 - lambda] * (Sin[psi0 - lambda] * Lphi +
       2 * p * Cos[psi0 - lambda] * Cos[n])^2;
   lstpdata[ilamb] = Append[lstpdata[ilamb], {psi0 * 180 / Pi, Ltht}];
   Print[" ", psi0 * 180 / Pi, " , ", Ltht]
   , {psi0, 0, Pi / 2, 0.05 * Pi / 2}], {ilamb, 0, 8, 1}];
ListLinePlot[{lstpdata[0], lstpdata[1], lstpdata[2], lstpdata[3],
  lstpdata[4], lstpdata[5], lstpdata[6], lstpdata[7], lstpdata[8]},
 Frame → True, GridLines → Automatic, FrameLabel → {" ψ0", "Pl^2/(EI)"}]
```

```
lambda= 0
 psi0    Pl^2/EI
 0. , 7.4988×10^-33
 4.5 , 0.156113
 9. , 0.306481
 13.5 , 0.445634
 18. , 0.568629
 22.5 , 0.67129
 27. , 0.750391
```

31.5 , 0.803799

36. , 0.830558

40.5 , 0.830912

45. , 0.806264

49.5 , 0.759076

54. , 0.692722

58.5 , 0.611284

63. , 0.519329

67.5 , 0.421652

72. , 0.323019

76.5 , 0.227922

81. , 0.140342

85.5 , 0.0635592

90. , 4.39507×10^{-17}

lambda= 10

psi0 Pl^2/EI

0. , 8.4059×10^{-33}

4.5 , 0.157915

9. , 0.31359

13.5 , 0.46128

18. , 0.595624

22.5 , 0.71189

27. , 0.806201

31.5 , 0.875702

36. , 0.918686

40.5 , 0.934652

45. , 0.924301

49.5 , 0.889475

54. , 0.833029

58.5 , 0.758664

63. , 0.670706

67.5 , 0.573869

72. , 0.472989

76.5 , 0.37277

81. , 0.277534

85.5 , 0.190999

90. , 0.116104

lambda= 20

psi0 Pl^2/EI

0. , 8.35042×10^{-33}

4.5 , 0.159825

9. , 0.321091

13.5 , 0.477724

18. , 0.623873

22.5 , 0.754192

27. , 0.864087

31.5 , 0.949928

36. , 1.00921

40.5 , 1.04064

45. , 1.04421

49.5 , 1.02111

54. , 0.973689

58.5 , 0.905283

63. , 0.820009

67.5 , 0.722535

72. , 0.61782

76.5 , 0.510838

81. , 0.40631

85.5 , 0.308461

90. , 0.220801

lambda= 30

psi0 Pl^2/EI

0. , 7.30592×10^{-33}

4.5 , 0.161986

9. , 0.329545

13.5 , 0.496172

18. , 0.655424

22.5 , 0.801224

27. , 0.928147

31.5 , 1.03167

36. , 1.1084

40.5 , 1.15617

45. , 1.17416

49.5 , 1.1629

54. , 1.1242

58.5 , 1.06102

63. , 0.977299

67.5 , 0.877707

72. , 0.767393

76.5 , 0.651683

81. , 0.535795

85.5 , 0.424558

90. , 0.322157

lambda= 40

psi0 Pl^2/EI

0. , 5.53777×10^{-33}

4.5 , 0.164624

9. , 0.339806

13.5 , 0.51845

18. , 0.693333

22.5 , 0.857449

27. , 1.00434

31.5 , 1.1284

36. , 1.22513

40.5 , 1.29136

45. , 1.32533

49.5 , 1.3268

54. , 1.29698

58.5 , 1.23845

63. , 1.15499

67.5 , 1.05136

72. , 0.932989

76.5 , 0.805688

81. , 0.675321

85.5 , 0.547487

90. , 0.427215

lambda= 50

psi0 Pl^2/EI

0. , 3.51719×10^{-33}

4.5 , 0.168153

9. , 0.353446

13.5 , 0.547879

18. , 0.743104

22.5 , 0.930821

27. , 1.10317

31.5 , 1.2531

36. , 1.3747

40.5 , 1.46347

45. , 1.51649

49.5 , 1.53258

54. , 1.51224

58.5 , 1.45767

63. , 1.37254

67.5 , 1.26179

72. , 1.13131

76.5 , 0.987634

81. , 0.837538

85.5 , 0.687671

90. , 0.544192

lambda= 60

psi0 Pl^2/EI

0. , 1.74912×10^{-33}

4.5 , 0.173507

9. , 0.37395

13.5 , 0.591737

18. , 0.816672

22.5 , 1.03842

27. , 1.24697

31.5 , 1.43314

36. , 1.58897

40.5 , 1.70807

45. , 1.78595

49.5 , 1.82014

54. , 1.81032

58.5 , 1.75822

63. , 1.66754

67.5 , 1.54365

72. , 1.39328

76.5 , 1.22412

81. , 1.04436

85.5 , 0.862251

90. , 0.68563

lambda= 70

psi0 Pl^2/EI

0. , 5.81942×10^{-34}

4.5 , 0.183401

9. , 0.411277

13.5 , 0.670501

18. , 0.947132

22.5 , 1.22697

27. , 1.49612

31.5 , 1.74166

36. , 1.95213

40.5 , 2.11812

45. , 2.23261

49.5 , 2.2913

54. , 2.29272

58.5 , 2.23823

63. , 2.13192

67.5 , 1.98022

72. , 1.7916

76.5 , 1.57598

81. , 1.34417

85.5 , 1.10725

90. , 0.875947

lambda= 80

psi0 Pl^2/EI

0. , 7.79329×10^{-35}

4.5 , 0.210757

9. , 0.511119

13.5 , 0.875327

18. , 1.27815

22.5 , 1.6949

27. , 2.10198

31.5 , 2.4776

36. , 2.80257

40.5 , 3.06105

45. , 3.24116

49.5 , 3.33543

54. , 3.34103

58.5 , 3.25974

63. , 3.09776

67.5 , 2.86521

72. , 2.57551

76.5 , 2.24451

81. , 1.8896

85.5 , 1.52865

90. , 1.17904

Out[4]=