

```
Off[FindRoot::lstol]
```

```
Abs'[x_] := Sign[x]
```

```
EMod = 210000;
```

```
Y0 = 500;
```

```
HMod = 10000000.;
```

```
fNCP[ε_, pn_, αn_, Δλ_] :=
```

```
Min[-(Abs[EMod (ε - pn - Δλ Abs[EMod (ε - pn)])] - (Y0 + HMod (αn + Δλ))), Δλ]
```

```
ℳ = {};
```

```
ρ = 1;
```

```
Do[
```

```
Do[
```

```
pn = 0;
```

```
αn = 0;
```

```
Δε = 0.0001;
```

```
εmax = imax Δε;
```

```
εend = iend Δε;
```

```
εn = Join[Range[0, εmax,  $\frac{\epsilon_{\max}}{10}$ ],
```

```
If[εend == εmax, {}, Drop[Reverse[Range[εend, εmax,  $\frac{\epsilon_{\max} - \epsilon_{\text{end}}}{10}$ ]], 1]]];
```

```
σεL = {};
```

```
Do[
```

```
sol = FindRoot[fNCP[εn[[loadstep]], pn, αn, Δλ] == 0, {Δλ, 0}];
```

```
pnp1 = pn + (Δλ /. sol) Abs[EMod (εn[[loadstep]] - pn)];
```

```
σnp1 = EMod (εn[[loadstep]] - pnp1);
```

```
σεL = Join[σεL, {{εn[[loadstep]], σnp1}}];
```

```
αnp1 = αn + (Δλ /. sol);
```

```
pn = pnp1;
```

```
αn = αnp1;
```

```
loadstep++;
```

```
, {loadstep, 1, Length[εn]}];
```

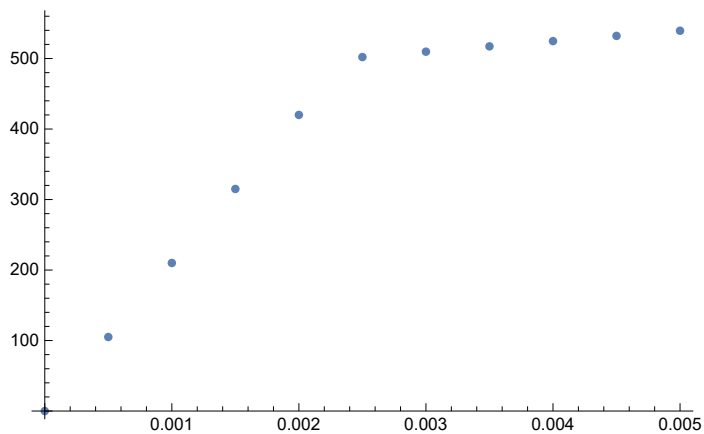
```
ℳ = Join[ℳ, {{ρ, εmax, εn[[1]], σnp1}}];
```

```
(*Interrupt[];*)
```

```
, {iend, 1, imax}]
```

```
, {imax, 1, 50}]
```

```
ListPlot[σεL]
```



```
ListPlot[Transpose[{D[All, 3], D[All, 4]}], AxesOrigin -> {0, 0}]
```

