In[688]:=
```
Clear["Global`*"]
```

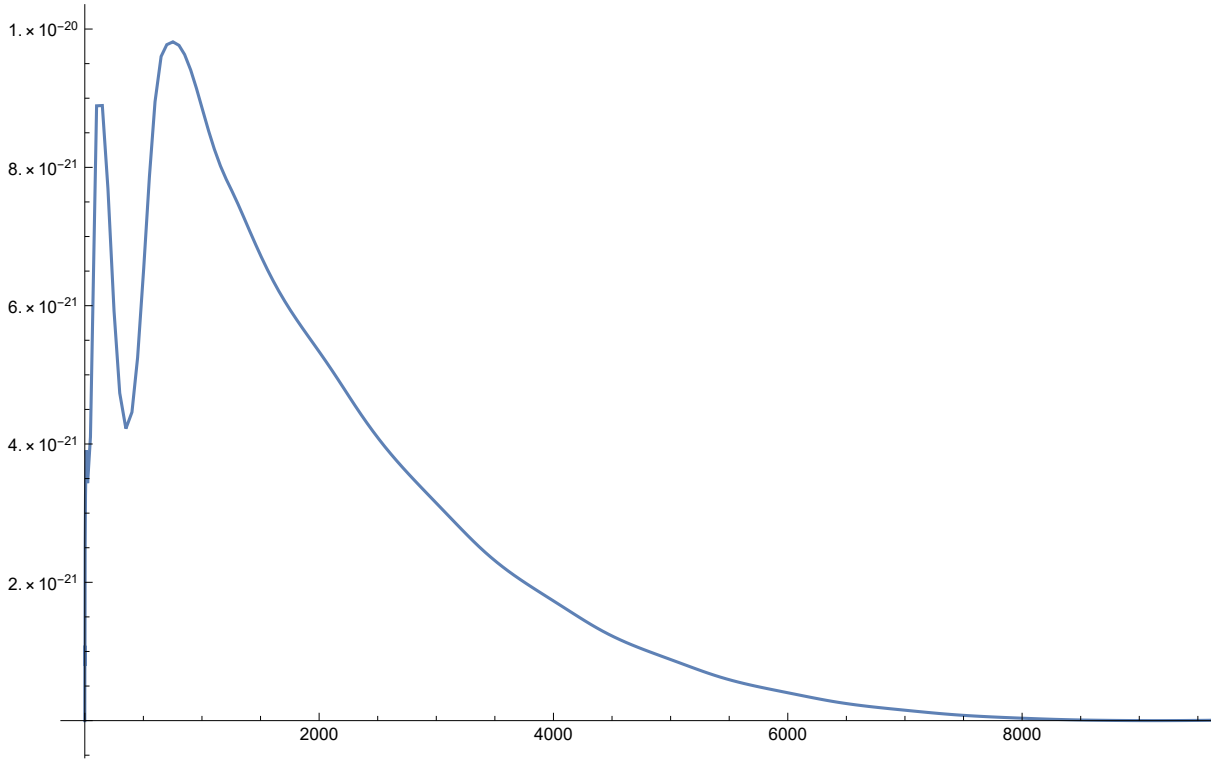
In[689]:=
```
sol = ParametricNDSolve[
  {r ϕ''[r] + 2 ϕ'[r] == 2 * r * (V[r] - ϵ - α / r) ϕ[r], r V''[r] + 2 V'[r] == r ϕ[r]^2,
   ϕ[10000] == 0, ϕ'[0.0035] == -3.5 × 10^(-5) × 4.3 × 10^(-7),
   V[0.0035] == -4.3 × 10^(-7), V'[0.0035] == 0}, {ϕ, V}, {r, 0.0035, 10000}, {α, ϵ}]
```

Out[689]=
$\{\phi \to$ ParametricFunction[ Expression: $\phi$ Parameters: $\{\alpha, \epsilon\}$ ],

$V \to$ ParametricFunction[ Expression: V Parameters: $\{\alpha, \epsilon\}$ ]$\}$

In[690]:=
```
Plot[Evaluate[{ϕ[3.5 * 10^(-4), -4.7 * 10^(-7)][r]^2} /. sol],
 {r, 0.0035, 10000}, PlotRange → All, PlotPoints → 200]
```

Out[690]=




In[691]:=

In[692]:=

In[693]:=

In[694]:=