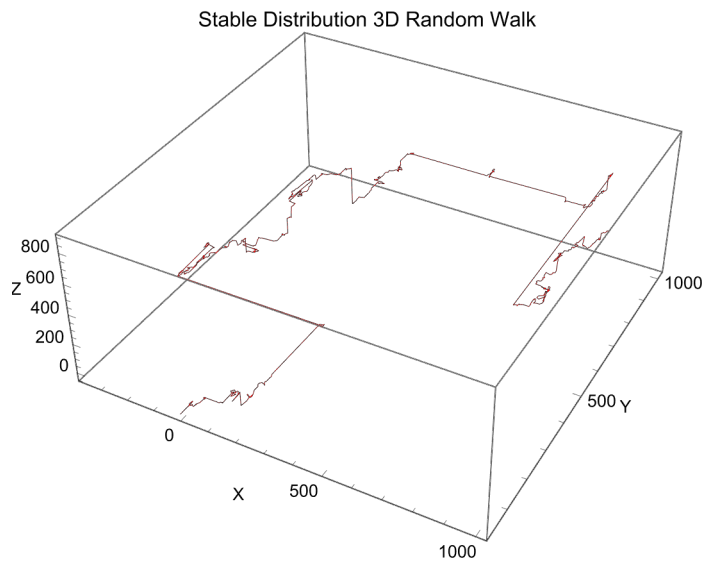


# Levy Flight

```
In[ ]:= ListLinePlot3D[  
  Accumulate[Table[RandomVariate[StableDistribution[1.13, 0, 1, 1], 3], {1000}]],  
  PlotStyle → Directive[Red, Thickness[0.001]], AxesLabel → {"X", "Y", "Z"},  
  PlotLabel → "Stable Distribution 3D Random Walk"]
```

Out[ ]:=

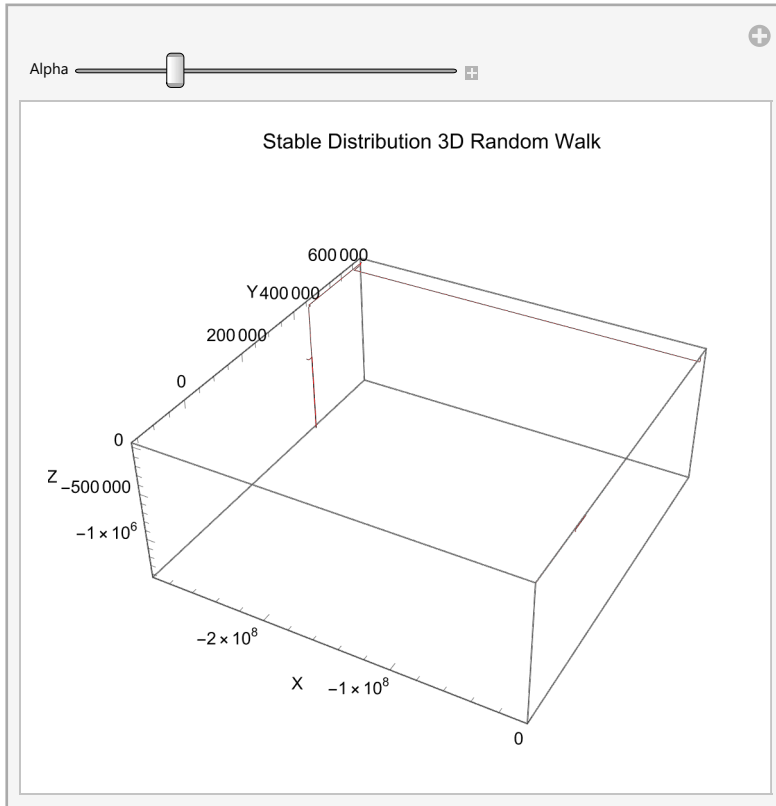


```

In[ ]:= Manipulate[ListLinePlot3D[
  Accumulate[Table[RandomVariate[StableDistribution[alpha, 0, 1, 1], 3], {1000}]],
  PlotStyle -> Directive[Red, Thickness[0.001]], AxesLabel -> {"X", "Y", "Z"},
  PlotLabel -> "Stable Distribution 3D Random Walk",
  {{alpha, 1.13, "Alpha"}, 0.01, 2, 0.01}]

```

Out[ ]=

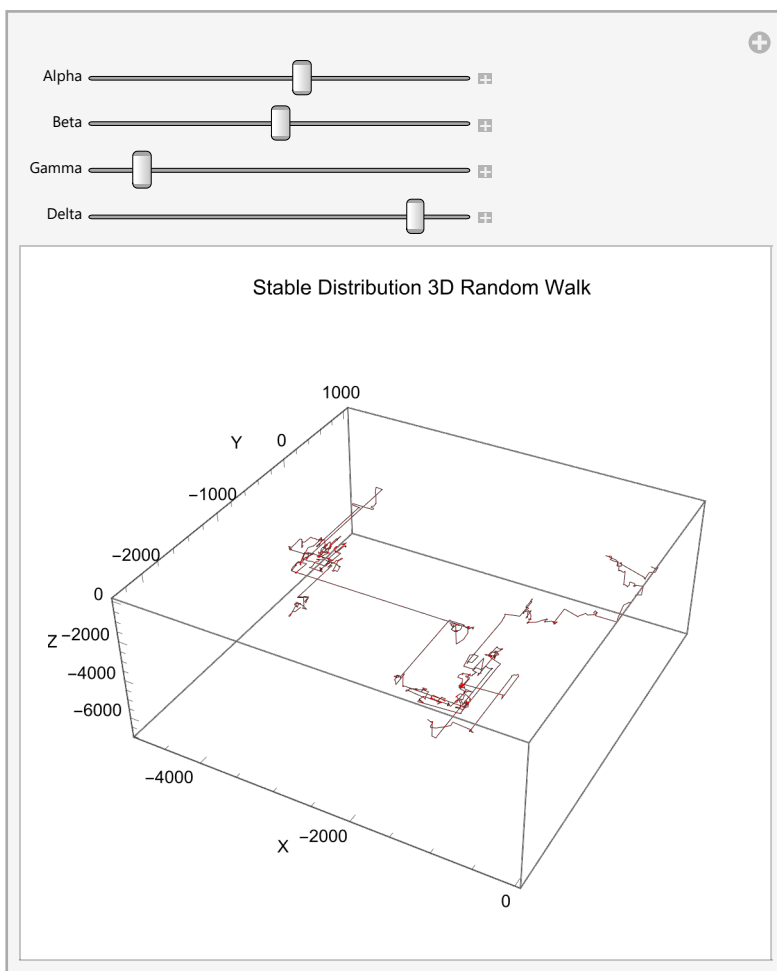


```

In[ ]:= Manipulate[ListLinePlot3D[
  Accumulate[Table[RandomVariate[StableDistribution[ $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ], 3], {1000}]],
  PlotStyle → Directive[Red, Thickness[0.001]], AxesLabel → {"X", "Y", "Z"},
  PlotLabel → "Stable Distribution 3D Random Walk",
  {{ $\alpha$ , 1.13, "Alpha"}, 0.01, 2, 0.01}, {{ $\beta$ , 0, "Beta"}, -1, 1, 0.01},
  {{ $\gamma$ , 1, "Gamma"}, 0.01, 10, 0.01}, {{ $\delta$ , 1, "Delta"}, 0, 10, 0.01}]

```

Out[ ]=

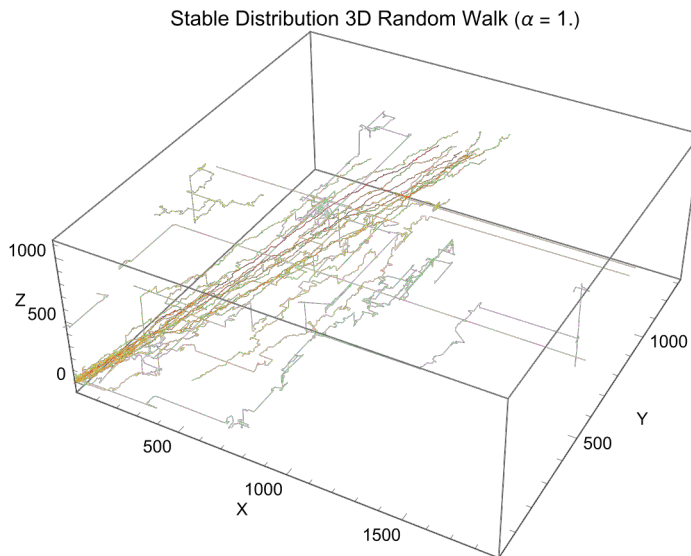


```

In[ ]:= Show@Table[ListLinePlot3D[
  Accumulate@Table[RandomVariate[StableDistribution[alpha, 0, 1, 1], 3], {1000}],
  PlotStyle -> Directive[ColorData["Rainbow"][Rescale[alpha, {0.1, 2}]]],
  Thickness[0.001]], AxesLabel -> {"X", "Y", "Z"},
  PlotLabel -> StringForm["Stable Distribution 3D Random Walk ( $\alpha = \text{``}$ ", alpha]],
  {alpha, 1, 2, 0.05}]

```

Out[ ]:=



In[ ]:= ? StableDistribution

Out[ ]:=

Symbol

StableDistribution[*type*,  $\alpha$ ,  $\beta$ ,  $\mu$ ,  $\sigma$ ] represents the stable distribution  $S_{type}$  with index of stability  $\alpha$ , skewness parameter  $\beta$ , location parameter  $\mu$ , and scale parameter  $\sigma$ .

```
In[ ]:= ListLinePlot3D[Accumulate[Table[RandomVariate[NormalDistribution[], 3], {1000}]],  
  PlotStyle → Directive[Blue, Thickness[0.001]], AxesLabel → {"X", "Y", "Z"},  
  PlotLabel → "Normal Distribution 3D Random Walk"]
```

Out[ ]=

