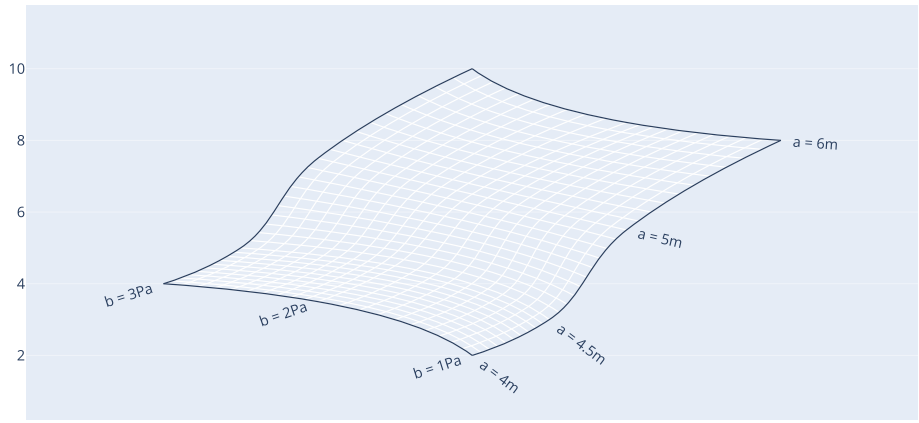
Carpet Scatter Plot in Python

How to make carpet scatter plots in Python with Plotly.

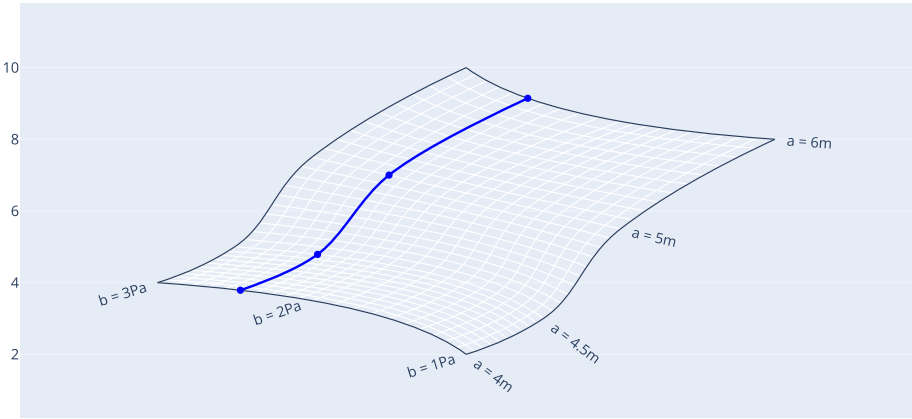
Basic Carpet Plot

```
import plotly.graph_objects as go

fig = go.Figure(go.Carpet(
    a = [4, 4, 4, 4.5, 4.5, 4.5, 5, 5, 5, 6, 6, 6],
    b = [1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3],
    y = [2, 3.5, 4, 3, 4.5, 5, 5.5, 6.5, 7.5, 8, 8.5, 10],
    aaxis = dict(
      tickprefix = 'a = ',
      ticksuffix = 'm',
      smoothing = 1,
      minorgridcount = 9
      ),
    baxis = dict(
      tickprefix = 'b = ',
      ticksuffix = 'Pa',
      smoothing = 1,
      minorgridcount = 9
      )
))

fig.show()
```



Add Carpet Scatter Trace

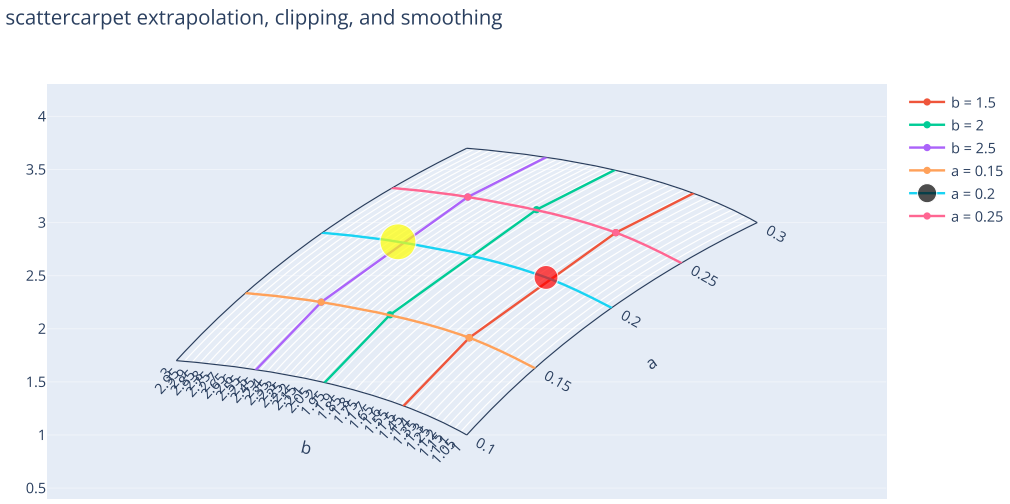
```
import plotly.graph_objects as go

fig = go.Figure()

fig.add_trace(go.Carpet(
    a = [4, 4, 4, 4.5, 4.5, 4.5, 5, 5, 5, 6, 6, 6],
    b = [1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3],
    y = [2, 3.5, 4, 3, 4.5, 5, 5.5, 6.5, 7.5, 8, 8.5, 10],
    aaxis = dict(
      tickprefix = 'a = ',
      ticksuffix = 'm',
      smoothing = 1,
      minorgridcount = 9
      ),
    baxis = dict(
      tickprefix = 'b = ',
      ticksuffix = 'Pa',
      smoothing = 1,
      minorgridcount = 9
      )
))

fig.add_trace(go.Scattercarpet(
    a = [4, 4.5, 5, 6],
    b = [2.5, 2.5, 2.5, 2.5],
    line = dict(
      shape = 'spline',
      smoothing = 1,
      color = 'blue'
    )
))

fig.show()
```



Add Multiple Scatter Traces

```
import plotly.graph_objects as go

fig = go.Figure()

fig.add_trace(go.Carpet(
    a = [0.1,0.2,0.3],
    b = [1,2,3],
    y = [[1,2.2,3],[1.5,2.7,3.5],[1.7,2.9,3.7]],
    cheaterslope = 1,
    aaxis = dict(
        title = "a",
        tickmode = "linear",
        dtick = 0.05
    ),
    baxis = dict(
        title = "b",
        tickmode = "linear",
        dtick = 0.05
    )
))

fig.add_trace(go.Scattercarpet(
    name = "b = 1.5",
    a = [0.05, 0.15, 0.25, 0.35],
    b = [1.5, 1.5, 1.5, 1.5]
))

fig.add_trace(go.Scattercarpet(
    name = "b = 2",
    a = [0.05, 0.15, 0.25, 0.35],
    b = [2, 2, 2, 2]
))

fig.add_trace(go.Scattercarpet(
    name = "b = 2.5",
    a = [0.05, 0.15, 0.25, 0.35],
    b = [2.5, 2.5, 2.5, 2.5]
))

fig.add_trace(go.Scattercarpet(
    name = "a = 0.15",
    a = [0.15, 0.15, 0.15, 0.15],
    b = [0.5, 1.5, 2.5, 3.5],
    line = dict(
        smoothing = 1,
        shape = "spline"
    )
))

fig.add_trace(go.Scattercarpet(
    name = "a = 0.2",
    a = [0.2, 0.2, 0.2, 0.2],
    b = [0.5, 1.5, 2.5, 3.5],
    line = dict(
        smoothing = 1,
        shape = "spline"
    ),
      marker = dict(
        size = [10, 20, 30, 40],
        color = ["#000", "#f00", "#ff0", "#fff"]
      )
))

fig.add_trace(go.Scattercarpet(
    name = "a = 0.25",
    a = [0.25, 0.25, 0.25, 0.25],
    b = [0.5, 1.5, 2.5, 3.5],
    line = dict(
        smoothing = 1,
        shape = "spline"
    )
))
```

```
    title = "scattercarpet extrapolation, clipping, and smoothing",
    hovermode = "closest"
)

fig.show()
```



Reference

See https://plotly.com/python/reference/scattercarpet/ (https://plotly.com/python/reference/scattercarpet/) for more information and chart attribute options!

What About Dash?

Dash (https://dash.plot.ly/) is an open-source framework for building analytical applications, with no Javascript required, and it is tightly integrated with the Plotly graphing library.

Learn about how to install Dash at https://dash.plot.ly/installation (https://dash.plot.ly/installation).

Everywhere in this page that you see `fig.show()`, you can display the same figure in a Dash application by passing it to the `figure` argument of the Graph component (https://dash.plot.ly/dash-core-components/graph) from the built-in `dash_core_components` package like this:

```
import plotly.graph_objects as go # or plotly.express as px
fig = go.Figure() # or any Plotly Express function e.g. px.bar(...)
# fig.add_trace( ... )
# fig.update_layout( ... )

from dash import Dash, dcc, html

app = Dash()
app.layout = html.Div([
    dcc.Graph(figure=fig)
])

app.run(debug=True, use_reloader=False)  # Turn off reloader if inside Jupyter
```