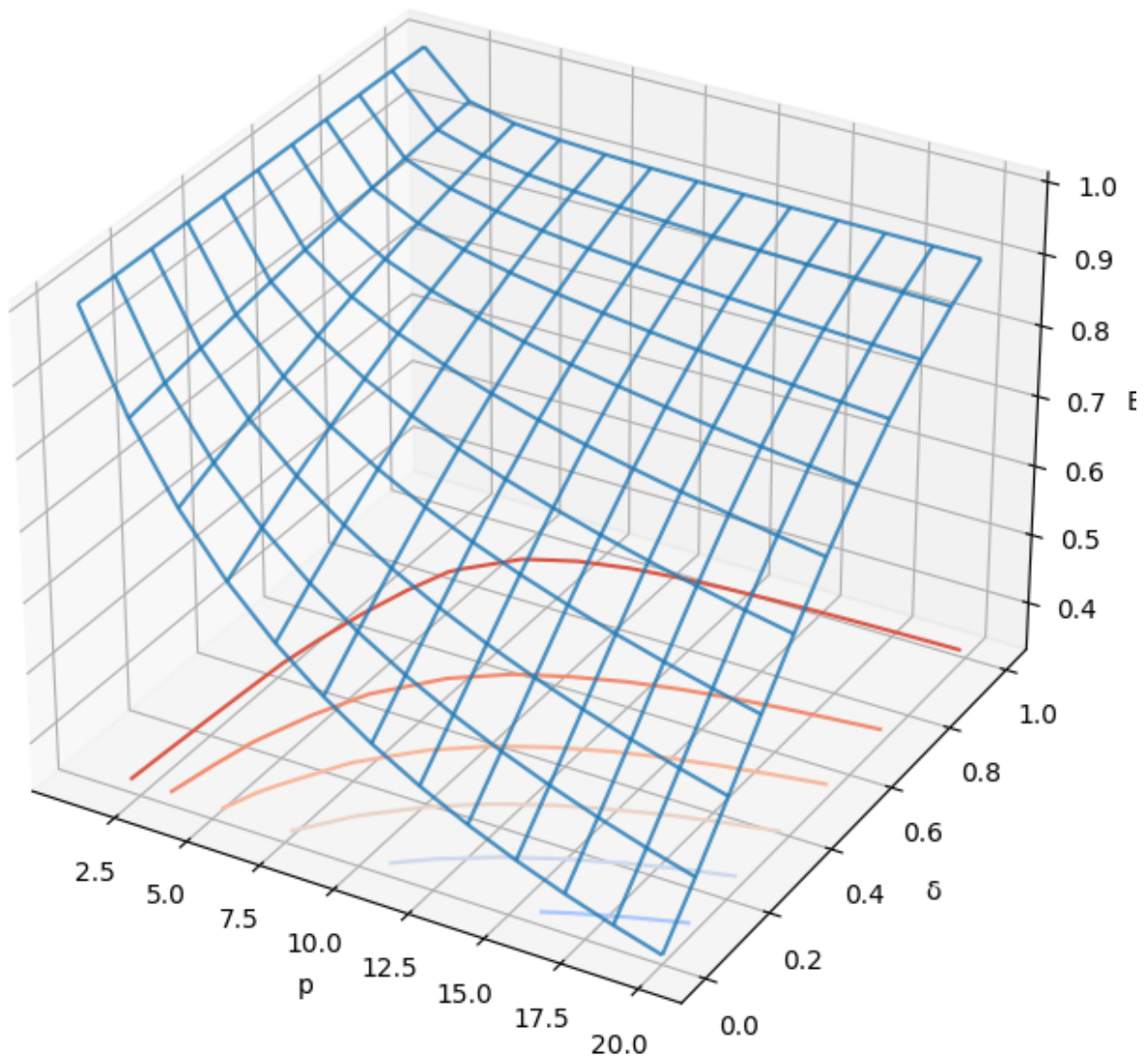


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Result:

Scaled Efficiency $E_{\gamma}(p) = S_{\gamma}(p)/p$



code flow:

Efficiency Function:

- The `efficiency_function(p, delta, f=0.1)` function calculates the scaled efficiency using this formula:

$$E_{\gamma=p^\delta}(p) = \frac{f + (1 - f) \cdot p^\delta}{p \cdot f + (1 - f) \cdot p^\delta}$$

Generate Data Points:

- `p_values` is created as an array from 1 to 20, representing the range of processing units.
- `delta_values` is created as an array from 0 to 1, representing the range of scaling ratio exponents.

Create Grid:

- `np.meshgrid(p_values, delta_values)` generates a 2D grid of (p, delta) coordinates for evaluation of the efficiency function.

Calculate Efficiency Values:

- The `efficiency_function` is applied to the entire grid of (p, delta) values, resulting in a 2D array of efficiency values.

Create 3D Plot:

- The 3D wireframe is plotted using `ax.plot_wireframe(p, delta, efficiency, cmap='coolwarm', alpha=0.8)`, with a colormap to represent efficiency values.
 - Contour lines are added to the p- δ plane using `ax.contour()`, highlighting constant efficiency levels.
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Code:

 **parallel-lab-2.ipynb**