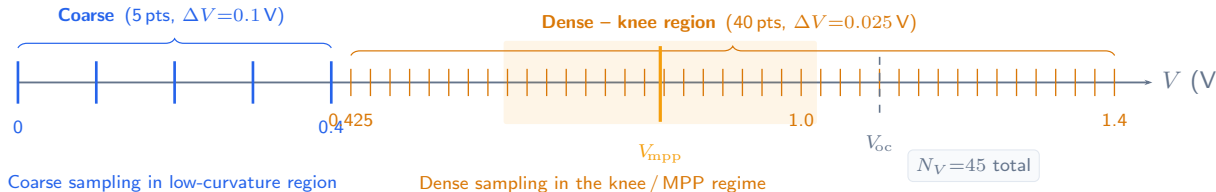


## (a) Non-uniform voltage grid design



## (b) Weighted error definition

**Grid-spacing:**  $\Delta V_j = V_{j+1} - V_j$  (forward diff.; last point repeated)

**Gaussian MPP emphasis** ( $w_{mpp}=2$ ,  $\sigma_w=0.1$  V):

$$w_j = 1 + (w_{mpp} - 1) \exp\left(-\frac{(V_j - V_{mpp})^2}{2\sigma_w^2}\right)$$

**$\Delta V$ -weighted curve loss:**

$$\mathcal{L}_{\text{curve}} = \frac{\sum_{j=1}^{N_V} \Delta V_j w_j (\hat{J}_j - J_j)^2}{\sum_{j=1}^{N_V} \Delta V_j w_j}$$

- Prevents low-information regions from dominating error
- Aligns objective with power-critical operating region



**Takeaway:** Resolution and weighting are intentionally concentrated where device-performance sensitivity is highest.