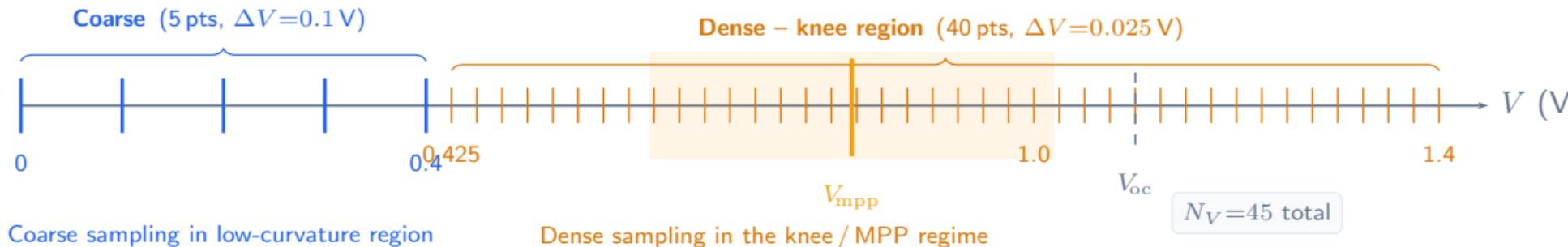


## (a) Non-uniform voltage grid design



## (b) Weighted error definition

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

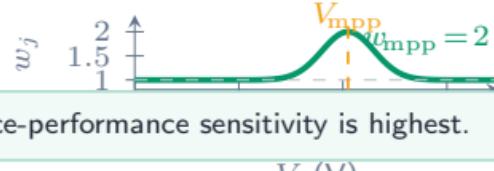
**Gaussian MPP emphasis** ( $w_{\text{mpp}}=2$ ,  $\sigma_w=0.1 \text{ V}$ ):

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

**ΔV-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.