

critical value.  $\sigma_c =$

$$\beta_c = \frac{1}{2c_{\max}}$$

$c_{\max}$ : max eigenvalue  
of the cov. matrix

a matrix  $X$  centered dataset

$$X \in \mathbb{R}^{D \times N} : \text{np.sum}(X, \mathbf{1}) = 0$$

$$C = \text{np.cov}(X)$$

$$\text{eigenvals} = \text{np.linalg.eigenvals}(C)$$

$$\beta_c = \frac{1}{2 \max(\text{eigenvals})}$$