SVD

Truncation to bond-dimension D

$$\lambda \, \bullet \, \bullet \, \lambda \;=\; \text{Matrix} \;\overset{\text{SVD}}{=}\; U \, \sigma \, V^\dagger \;\simeq\; \tilde{U} \, \tilde{\sigma} \, \tilde{V}^\dagger$$

$$\bullet \;=\; \lambda^{-1} \, \tilde{U} \, \sqrt{\tilde{\sigma}} \quad , \quad \bullet \;=\; \sqrt{\tilde{\sigma}} \, \tilde{V}^\dagger \, \lambda^{-1} \quad , \quad \lambda_{\text{new}} = \sqrt{\tilde{\sigma}}$$