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Vc can no longer represent every $\mathbf{s} \in \mathbb{R}^m$.









 $\mathsf{Error} \ \mathsf{norm} \ \left\| \mathbf{s} - \mathbf{\hat{s}} \right\|$



Error norm $\|\mathbf{s} - \mathbf{\hat{s}}\|$ is minimized



Error norm $\|\mathbf{s}-\hat{\mathbf{s}}\|$ is minimized if $\hat{\mathbf{s}}$ is the projection of \mathbf{s}



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The Orthogonal case If V is $m \times m$ with orthogonal columns,

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