

u =

$$\begin{bmatrix} -0.4082 & -0.0000 & -0.0000 & 0.8165 & 0.0000 & | & 0.4082 \\ -0.4082 & 0.0000 & -0.2599 & -0.4082 & 0.6576 & | & 0.4082 \\ -0.4082 & 0.0000 & 0.2599 & -0.4082 & -0.6576 & | & 0.4082 \\ -0.4082 & 0.5393 & -0.5701 & 0.0000 & -0.2253 & | & -0.4082 \\ -0.4082 & -0.8006 & -0.1493 & -0.0000 & -0.0590 & | & -0.4082 \\ -0.4082 & 0.2612 & 0.7194 & -0.0000 & 0.2843 & | & -0.4082 \end{bmatrix}$$

s =

$$\begin{bmatrix} 2.4495 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1.7321 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1.7321 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1.7321 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1.7321 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0.0000 & 0 & 0 & 0 \end{bmatrix}$$

vt =

$$\begin{bmatrix} -0.3333 & 0.3114 & -0.3292 & 0.4714 & -0.1301 & 0.6327 & 0.1464 & 0.1503 & -0.0096 \\ -0.3333 & -0.4622 & -0.0862 & 0.4714 & -0.0341 & -0.4331 & 0.2297 & 0.1479 & 0.4269 \\ -0.3333 & 0.1508 & 0.4154 & 0.4714 & 0.1642 & -0.1997 & -0.3762 & -0.2981 & -0.4174 \\ -0.3333 & 0.3114 & -0.4792 & -0.2357 & 0.2496 & -0.2662 & -0.5409 & 0.1831 & 0.2179 \\ -0.3333 & -0.4622 & -0.2363 & -0.2357 & 0.3456 & 0.3042 & -0.0479 & -0.5903 & -0.0332 \\ -0.3333 & 0.1508 & 0.2653 & -0.2357 & 0.5438 & -0.0380 & 0.4930 & 0.4073 & -0.1846 \\ -0.3333 & 0.3114 & -0.1791 & -0.2357 & -0.5098 & -0.3665 & 0.3945 & -0.3333 & -0.2083 \\ -0.3333 & -0.4622 & 0.0638 & -0.2357 & -0.4137 & 0.1288 & -0.2777 & 0.4425 & -0.3937 \\ -0.3333 & 0.1508 & 0.5654 & -0.2357 & -0.2155 & 0.2377 & -0.1168 & -0.1091 & 0.6020 \end{bmatrix}$$

SINGULAR VALUE DECOMPOSITION (SVD.)

An illustration of the bases of the four fundamental subspaces

