

The diagram illustrates the decomposition of a 3D tensor $\tilde{\mathcal{A}}$ into a sum of three rank-1 components and a residual \mathcal{E} . On the left, a white cube represents the tensor $\tilde{\mathcal{A}}$. This is followed by an equals sign. To the right of the equals sign are four terms separated by plus signs. The first three terms are rank-1 components: a purple cube, a green cube, and a red cube. Each of these cubes is composed of a vertical rectangular prism and a horizontal rectangular prism, with a diagonal line segment connecting their top corners. The colors purple, green, and red correspond to the vectors \mathbf{u}_1 , \mathbf{u}_2 , and \mathbf{u}_3 respectively. The fourth term is a yellow cube representing the residual \mathcal{E} . Below the diagram, the corresponding mathematical equation is written: $\tilde{\mathcal{A}} = \lambda_1 \mathbf{u}_1^{\otimes 3} + \lambda_2 \mathbf{u}_2^{\otimes 3} + \lambda_3 \mathbf{u}_3^{\otimes 3} + \mathcal{E}$. The symbol $\tilde{\mathcal{A}}$ is in red, and the symbol \mathcal{E} is also in red.

$$\tilde{\mathcal{A}} = \lambda_1 \mathbf{u}_1^{\otimes 3} + \lambda_2 \mathbf{u}_2^{\otimes 3} + \lambda_3 \mathbf{u}_3^{\otimes 3} + \mathcal{E}$$