LaTeX 笔记

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1 表达式与方程组

大括号

$$\omega(u,\alpha)=\begin{cases}\tan(\frac{\pi\alpha}{2}), & \alpha\neq 1\\ \frac{2}{\pi}\log(|u|), & \alpha=1\end{cases} \tag{1}$$

$$sgn(u)=\begin{cases}1, & u>0\\ 0, & u=0\\ -1, & u<0\end{cases} \tag{2}$$

离散求和

$$H(x)=\sum_{i=0,j=0}^{N-1,M-1}(x_{i,j}=x), x=0,1,\cdots,255 \tag{3}$$

离散求和（方程组）

$$u=\sum_{i=0}^{k}\sum_{j=0}^{i}a_{ij}\cdot x^i y^{i-j} \tag{4}$$

$$v=\sum_{i=0}^{k}\sum_{j=0}^{i}b_{ij}\cdot x^i y^{i-j} \tag{5}$$

均方根误差 RMSE

$$RMSE_x=\sqrt{\frac{\sum_{i=0}^{N-1}\left(x_i'-u_i\right)^2}{N}} \tag{6}$$

$$RMSE_y=\sqrt{\frac{\sum_{i=0}^{N-1}\left(y_i'-v_i\right)^2}{N}} \tag{7}$$

2 向量与矩阵

矩阵表达 (斜省略号)

$$\sum\nolimits_y=\begin{bmatrix}\lambda_1 & 0 & & \cdots & 0\\ 0 & \lambda_2 & & & \\ & & \ddots & & \vdots\\ \vdots & & & \ddots & \\ 0 & & \cdots & & \lambda_B\end{bmatrix}, \lambda_1>\lambda_2>\cdots>\lambda_B \tag{8}$$

矩阵运算

$$\begin{bmatrix} u \\ v \end{bmatrix} = \begin{bmatrix} a_0 & a_1 & a_2 \\ b_0 & b_1 & b_2 \end{bmatrix} \cdot \begin{bmatrix} 1 & x & y \end{bmatrix}^T \tag{9}$$