**模糊化**

**黑白**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **5\*5** | **9\*9** | **13\*13** |
| **Mean filter** |  |  |  |
| **Gaussian filter** |  |  |  |
| **Median filter** |  |  |  |

**彩色**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **5\*5** | **9\*9** | **13\*13** |
| **Mean filter** |  |  |  |
| **Gaussian filter** |  |  |  |
| **Median filter** |  |  |  |

**去雜訊**

**黑白**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **5\*5** | **9\*9** | **13\*13** |
| **Mean filter** |  |  |  |
| **Gaussian filter** |  |  |  |
| **Median filter** |  |  |  |

**彩色**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **5\*5** | **9\*9** | **13\*13** |
| **Mean filter** |  |  |  |
| **Gaussian filter** |  |  |  |
| **Median filter** |  |  |  |

**Sobel**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **3x3** | **7x7** | **11x11** |
| **Sobel x** |  |  |  |
| **Sobel y** |  |  |  |
| **Sobel** |  |  |  |
| **high threshold** |  |  |  |

**Laplacian**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **3x3** | **7x7** | **11x11** |
| **Laplacian** |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **15x15** | **19x19** | **23x23** |
| **Laplacian** |  |  |  |