**2021/12/07 陳嘉政 r10922171 HW8**

1. **Gaussian noise of amplitude 10**

**雜訊圖**

**SNR = 13.5988**

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**(1)3x3 box filter**

**SNR = 17.7372**

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**(2)5x5 box filter**

**SNR = 14.8614**

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**(3)3x3 median filter**

**SNR = 17.6762**

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**(4)5x5 median filter**

**SNR = 16.0041**

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**(5) opening then closing**

**SNR = 13.2449**

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**(6) closing and opening**

**SNR = 13.6037**

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1. **Gaussian noise of amplitude 30**

**雜訊圖**

**SNR = 4.17281**

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**(1)3x3 box filter**

**SNR = 12.6067**

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**(2)5x5 box filter**

**SNR = 13.2879**

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**(3)3x3 median filter**

**SNR = 11.102**

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**(4)5x5 median filter**

**SNR = 12.8922**

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**(5) opening then closing**

**SNR = 11.1734**

****

**(6) closing then opening**

**SNR = 11.2145**

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1. **Salt and pepper of probability 0.05**

**雜訊圖**

**SNR = 1.01534**

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**(1)3x3 box filter**

**SNR = 9.53373**

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**(2)5x5 box filter**

**SNR = 11.2015**

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**(3)3x3 median filter**

**SNR = 19.1263**

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**(4)5x5 median filter**

**SNR = 16.3716**

****

**(5) opening then closing**

**SNR = 5.69555**

****

**(6) closing then opening**

**SNR = 5.58735**

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1. **Salt and pepper of probability 0.10**

**雜訊圖**

**SNR = -1.87318**

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**(1)3x3 box filter**

**SNR = 6.56892**

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**(2)5x5 box filter**

**SNR = 8.71012**

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**(3)3x3 median filter**

**SNR = 15.3722**

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**(4)5x5 median filter**

**SNR = 15.7797**

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**(5) opening then closing**

**SNR = -2.14207**

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**(6) closing then opening**

**SNR = -1.95822**

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