Matlab code for Fourier phasing with phase-uncertain mask

Wenjing Liao and Albert Fannjiang

March 7, 2014

1 Functions

1. **Main:** the main function where images, random phase/uniform illuminations (with or without uncertainty) and Fourier intensity measurements are generated.

2. **Figure7:** the code of producing results in Figure 7 of [2].

3. **Figure8:** the code of producing results in Figure 8 of [2].

4. **Figure9:** the code of producing results in Figure 9 of [2].

5. **DR:** the function of realizing Douglas Rachford (DR) followed by Error Reduction (ER) if mask is exactly known, i.e. \( \delta = 0 \).

6. **DR_NoisyMask:** the function of realizing Alternating Douglas-Rachford and Error-Reduction (DRER) followed by Alternating Error Reduction (AER) when the mask phases are uncertain, i.e. \( \delta > 0 \). Images as well as masks are updated at each iteration.

References


