CLAIMS

1. A method of tuning a lithography system utilizing an imaging model, said lithography system and said imaging model each having tunable parameters for controlling imaging performance, said method comprising the steps of:

defining a test pattern;

imaging a test pattern utilizing said lithography system and measuring the imaging results, said lithography system having a first set of parameter values;

tuning said imaging model utilizing said imaging results corresponding to said lithography system, said tuned imaging model having a second set of parameter values;

adjusting said first set of parameters of said lithography system based on a difference between said first set of parameter values and said second set of parameter values.

2. A method of tuning a lithography system according to claim 1, wherein said lithography system comprises a scanner.

3. A method of tuning a lithography system according to claim 1, wherein said imaging model further comprises fixed parameters.

4. A method of tuning a lithography system according to claim 1, wherein said tunable parameters of said lithography system correspond to said tunable parameters of said imaging model.

5. A method of tuning a lithography system according to claim 1, wherein said tunable parameters of said lithography system are set at a nominal value when imaging said test pattern

What is claimed is:

1. A method of tuning a first lithography system utilizing a reference lithography system, said first lithography system and said reference lithography system each having tunable parameters for controlling imaging performance, said method comprising the steps of: defining a test pattern and an imaging model; imaging said test pattern utilizing said reference lithography system and measuring the imaging results; imaging said test pattern utilizing said first lithography system and measuring the imaging results; calibrating said imaging model utilizing said imaging results corresponding to said reference lithography system, said calibrated imaging model having a first set of parameter values; tuning said calibrated imaging model utilizing said imaging results corresponding to said first lithography system, said tuned calibrated model having a second set of parameter values; adjusting said parameters of said first lithography system based on a difference between said first set of parameter values and said second set of parameter values.

2. A method of tuning a first lithography system according to claim 1, wherein said first lithography system comprises a scanner.

3. A method of tuning a first lithography system according to claim 1, wherein said imaging model comprises fixed parameters.

4. A method of tuning a first lithography system according to claim 1, wherein said tunable parameters of said first lithography system correspond to said tunable parameters of said reference lithography system.

5. A method of tuning a first lithography system according to claim 1, wherein said tunable parameters of said first lithography system and said reference lithography system are set at a nominal value when imaging said test pattern.

6. A method of tuning a lithography system utilizing a target pattern, said lithography system having tunable parameters for controlling imaging performance, said method comprising the steps of: defining an imaging model; imaging said target pattern utilizing said lithography system and measuring imaging results, simulating the imaging of said target pattern utilizing said imaging model and determining simulated imaging results, said imaging model having a first set of parameter values; determining target wafer data based on said simulated imaging results and a difference between said imaging results and said target pattern, and tuning said imaging model utilizing said target wafer data; said tuned imaging model having a second set of parameter values; adjusting said tunable parameters of said lithography system based on a difference between said first set of parameter values and said second set of parameter values.

7. A method of tuning a lithography system according to claim 6, wherein said lithography system comprises a scanner.

8. A method of tuning a lithography system according to claim 6, wherein said imaging model comprises fixed parameters.

9. A method of tuning a lithography system according to claim 6, wherein said tunable parameters of said lithography system correspond to tunable parameters of said imaging model.

10. A method of tuning a lithography system according to claim 6, wherein said tunable parameters of said lithography system and said imaging model are initially set to nominal values.

11. A non-transitory computer readable medium containing a sequence of instructions which cause a computer to perform a method of tuning a first lithography system utilizing a reference lithography system, said first lithography system and said reference lithography system each having tunable parameters for controlling imaging performance, said method comprising the steps of: defining a test pattern and an imaging model; imaging said test pattern utilizing said reference lithography system and measuring the imaging results; imaging said test pattern utilizing said first lithography system and measuring the imaging results; calibrating said imaging model utilizing said imaging results corresponding to said reference lithography system, said calibrated imaging model having a first set of parameter values; tuning said calibrated imaging model utilizing said imaging results corresponding to said first lithography system, said tuned calibrated model having a second set of parameter values; adjusting said parameters of said first lithography system based on a difference between said first set of parameter values and said second set of parameter values.

12. A computer readable medium according to claim 11, wherein said first lithography system comprises a scanner.

13. A computer readable medium according to claim 11, wherein said imaging model comprises fixed parameters.

14. A computer readable medium according to claim 11, wherein said tunable parameters of said first lithography system correspond to said tunable parameters of said reference lithography system.

15. A computer readable medium according to claim 11, wherein said tunable parameters of said first lithography system and said reference lithography system are set at a nominal value when imaging said test pattern.

16. An apparatus having a processor configured to perform a method of tuning a first lithography system utilizing a reference lithography system, said first lithography system and said reference lithography system each having tunable parameters for controlling imaging performance, said method comprising the steps of: defining a test pattern and an imaging model; imaging said test pattern utilizing said reference lithography system and measuring the imaging results; imaging said test pattern utilizing said first lithography system and measuring the imaging results; calibrating said imaging model utilizing said imaging results corresponding to said reference lithography system, said calibrated imaging model having a first set of parameter values; tuning said calibrated imaging model utilizing said imaging results corresponding to said first lithography system, said tuned calibrated model having a second set of parameter values; adjusting said parameters of said first lithography system based on a difference between said first set of parameter values and said second set of parameter values.

17. An apparatus according to claim 16, wherein said first lithography system comprises a scanner.

18. An apparatus according to claim 16, wherein said imaging model comprises fixed parameters.

19. An apparatus according to claim 16, wherein said tunable parameters of said first lithography system correspond to said tunable parameters of said reference lithography system.

20. An apparatus according to claim 16, wherein said tunable parameters of said first lithography system and said reference lithography system are set at a nominal value when imaging said test pattern.