CLAIMS

1. A method comprising:

(a) providing a substrate having a plurality of features spaced apart, each feature having sloping sidewalls and a feature opening width, wherein the opening width of the feature narrows from the top of the feature to the bottom of the feature;

(b) depositing a bulk metal layer in the features; and

(c) after depositing the bulk metal layer in the features, depositing an amorphous metal-based layer in the features and, after (c), further comprising repeating (b) one or more times.

2. The method of claim 1, wherein the width of the bottom of each feature is between 0 nm and 90% of the width at the top of the each feature.

3. The method of claim 1 or 2, wherein the metal is selected from the group consisting of tungsten, ruthenium, molybdenum, and cobalt.

4. The method of any of claims 1-3, further comprising filling the feature.

5. The method of claim 4, further comprising repeating (c) one or more times to fill the feature.

6. The method of any of claims 1–5, further comprising annealing the conformal amorphous metal-based layer.

7. The method of any of claims 1-6, wherein the features are spaced apart with a pitch of between about 10 nm and 60 nm between adjacent features.

8. The method of any of claims 1-7, further comprising depositing a metal nucleation layer in the features.

9. The method of any of claims 1-8, wherein the metal-based layer comprises at least 50%

metal.

10. The method of claim 9, wherein the metal-based layer further comprises one or more of boron (B), nitrogen (N), carbon (C), silicon (Si), and germanium (Ge).