



[illegible]

Figure 1 displays 16 small plots arranged in a 4x4 grid, illustrating various spatial patterns of points. The patterns include random distributions, clusters, lines, and regular grids, representing different types of spatial data that can be analyzed using the proposed method.

The image displays a 20x20 grid of black dots on a white background. The dots are arranged in a pattern that suggests a banded structure, with higher density along the main diagonal and some off-diagonal elements, particularly in the lower-left and upper-right quadrants. This visual representation likely corresponds to the sparse matrix  $A$  described in the accompanying text.

A 3x3 grid of dots. The top row has three dots. The middle row has two dots, with the rightmost position empty. The bottom row has two dots, with the leftmost position empty.



A 10x10 grid of 100 small clusters of black dots, each cluster representing a different number from 0 to 99. The clusters are arranged in a grid where the first row shows numbers 0-9, the second row 10-19, and so on, up to 90-99 in the tenth row. Each cluster is a unique arrangement of dots, with some numbers having a single dot and others having up to 10 dots.

A 3x3 grid of dots. The top row has two dots, the middle row has two dots, and the bottom row has two dots. The dot in the top-right position is missing.

A 10x10 grid of 100 small clusters of black dots. Each cluster is a unique, abstract pattern of dots, varying in density, shape, and complexity. The patterns range from simple vertical or horizontal lines to more complex, irregular shapes that resemble small trees, flowers, or abstract figures. The dots are small and black, set against a white background.

A 3x3 grid of dots. The top row has three dots. The middle row has two dots, with the rightmost position empty. The bottom row has two dots, with the leftmost position empty.

The image shows three distinct dot patterns. The first pattern consists of 1 dot. The second pattern consists of 2 dots. The third pattern consists of 3 dots.

The image displays a 7x10 grid of 70 small clusters of black dots, each representing a different handwritten digit from 0 to 9. The digits are arranged in rows: the first row contains digits 0-4, the second row contains 5-9, and the remaining four rows contain various combinations of digits 0-9.

A 3x3 grid of dots. The top row has 3 dots, the middle row has 3 dots, and the bottom row has 2 dots (the leftmost dot is missing).



