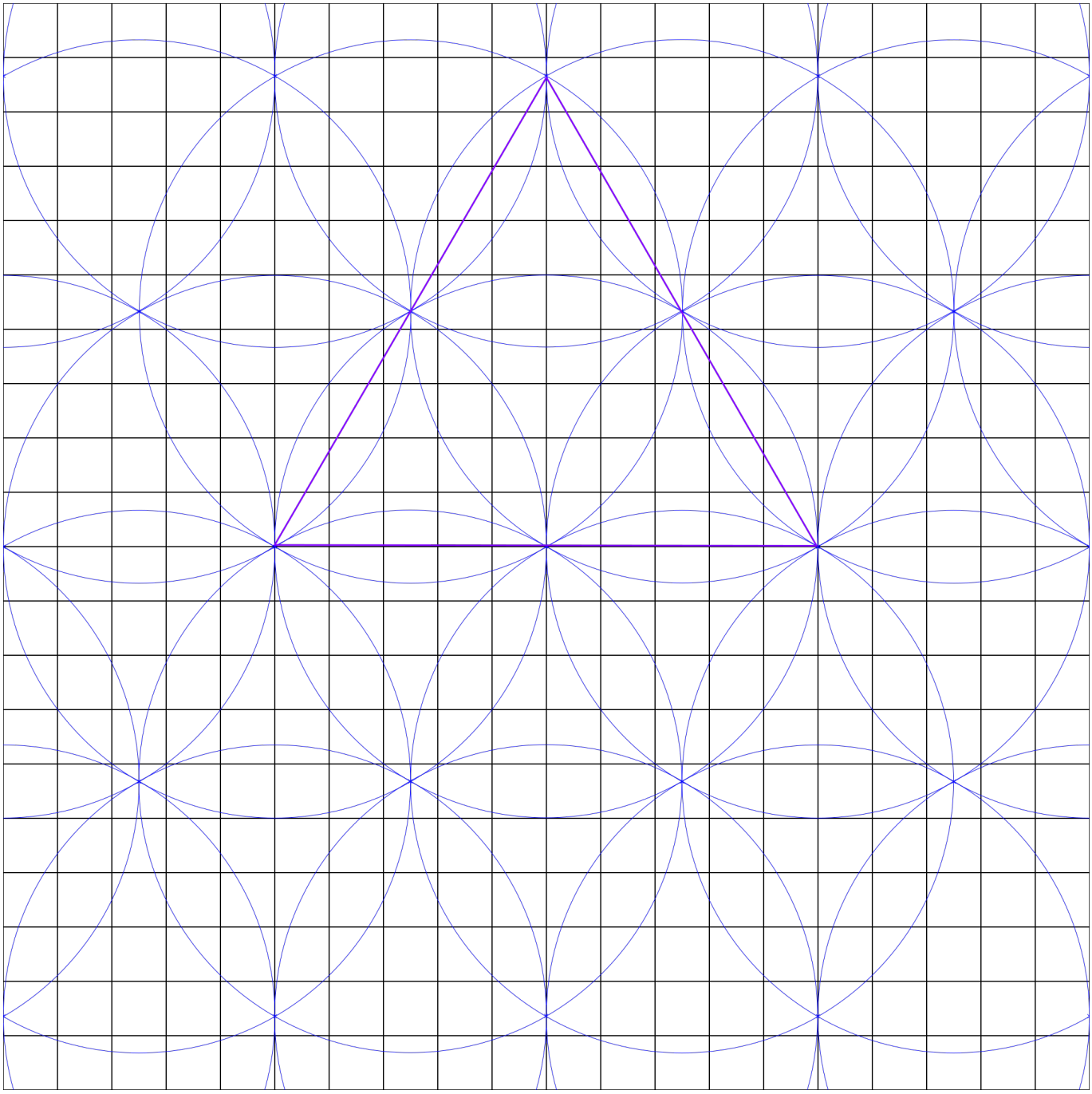
Optimal Sensor Placement

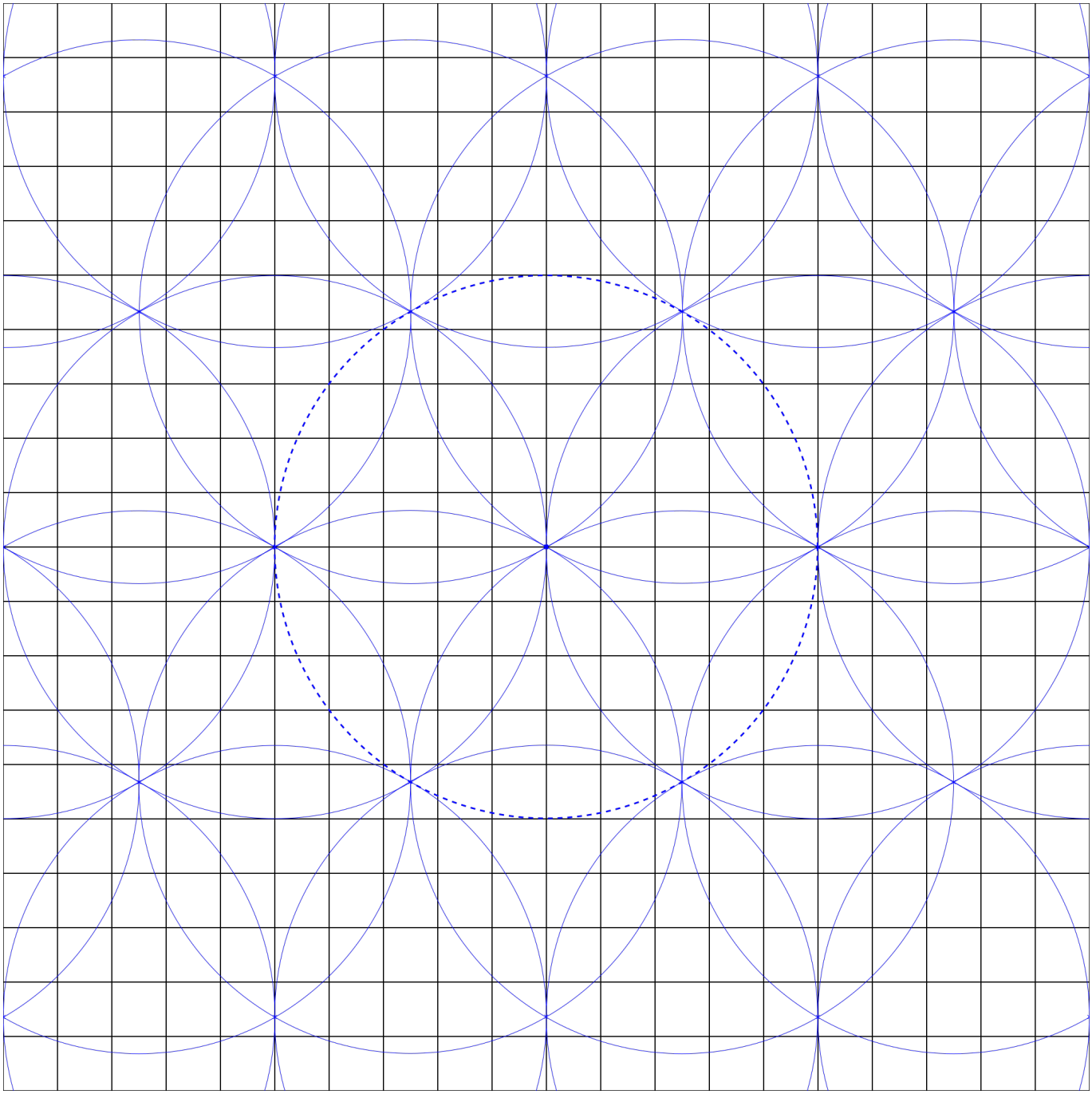
The Star Trek: Armada Sensor Stations are the eyes of an Armada player. Their range of 1000 (arbitrary game units) is the highest line of sight the game has to offer. As such they can be placed in various fashions. Some are more favorable in terms of simplicity, some in terms of efficient resource use and others in terms of resilience. The following considerations use images which show circles as depiction for sensor stations range. Blue lines show the limits of a sensor stations. Purple is a shape used for area calculations. Red areas are parts that are not covered by any sensor stations (blind spots), surrounded by the next neighbors in yellow. The black grid uses a distance of 200

Maximum Redundancy

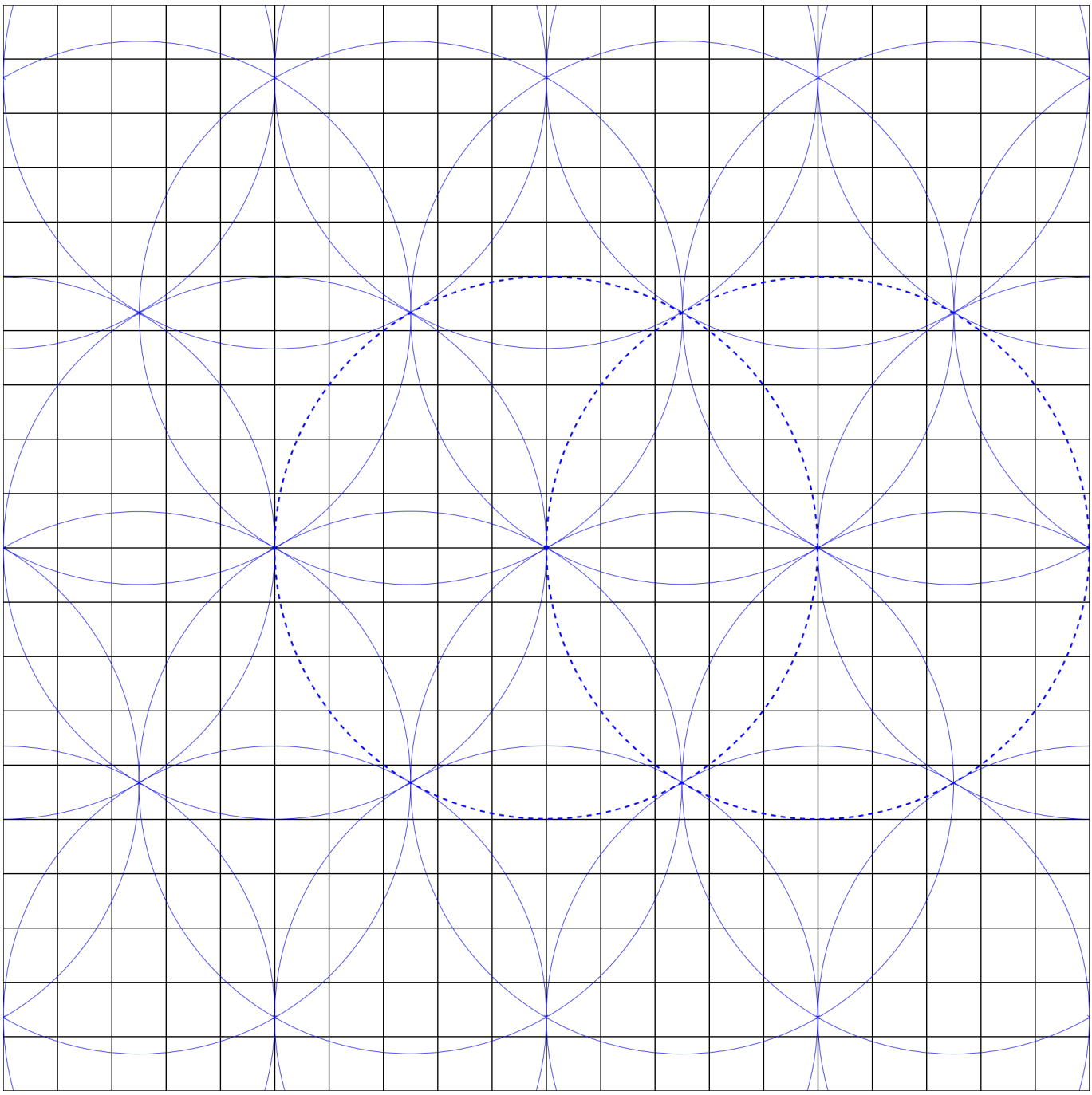
This pattern uses a grid consisting of equilateral triangles. *Each station* is surrounded by six other stations, except for the ones that are next to the map borders:



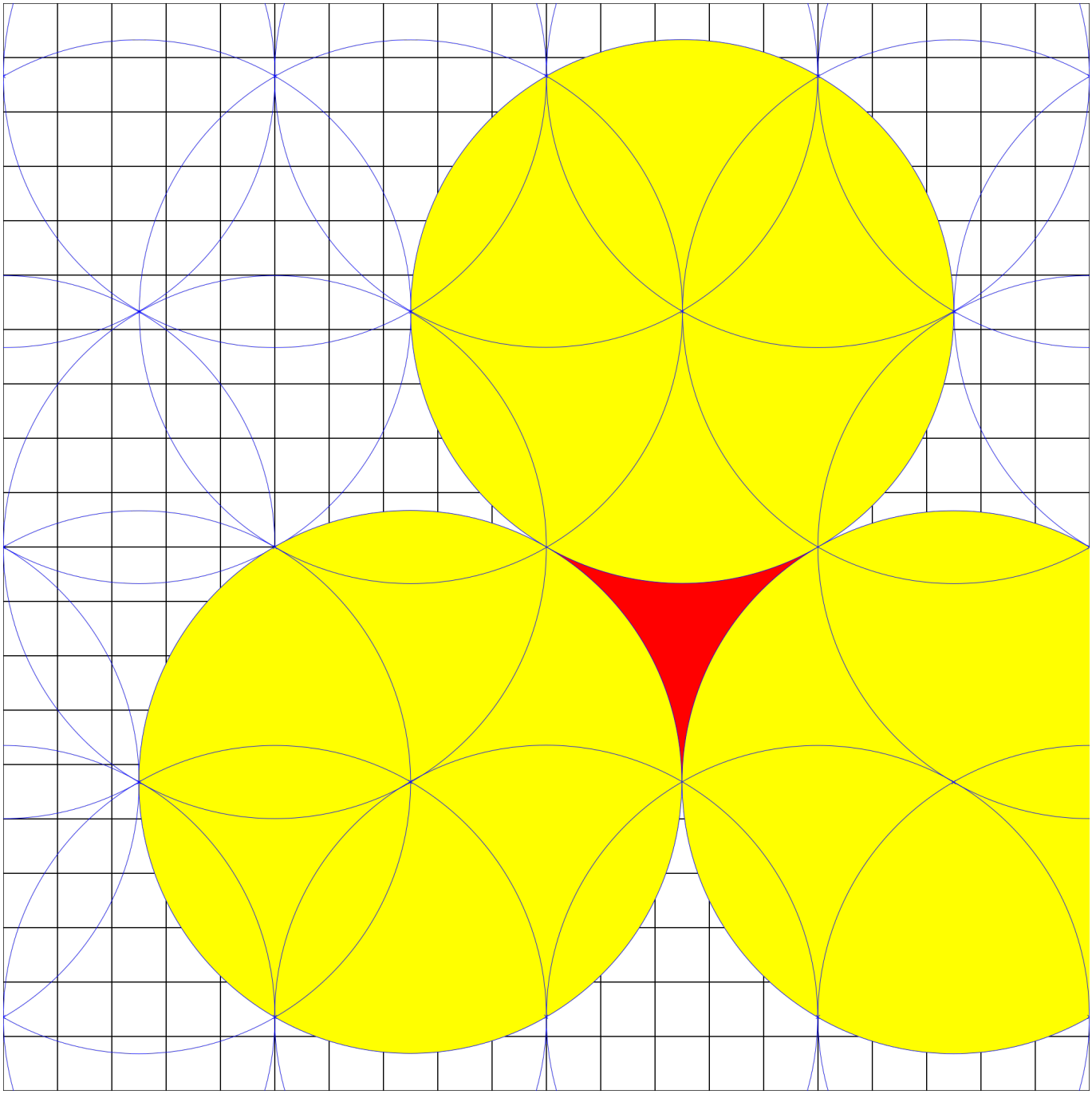
Using more stations is of course possible, but this pattern should provide enough redundancy for most cases. When removing one station, the entire area is still covered:



Even with two directly neighboring stations gone, there is still no gap in the coverage:



Only after removing three stations which are directly adjacent to one another will there be a gap:



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