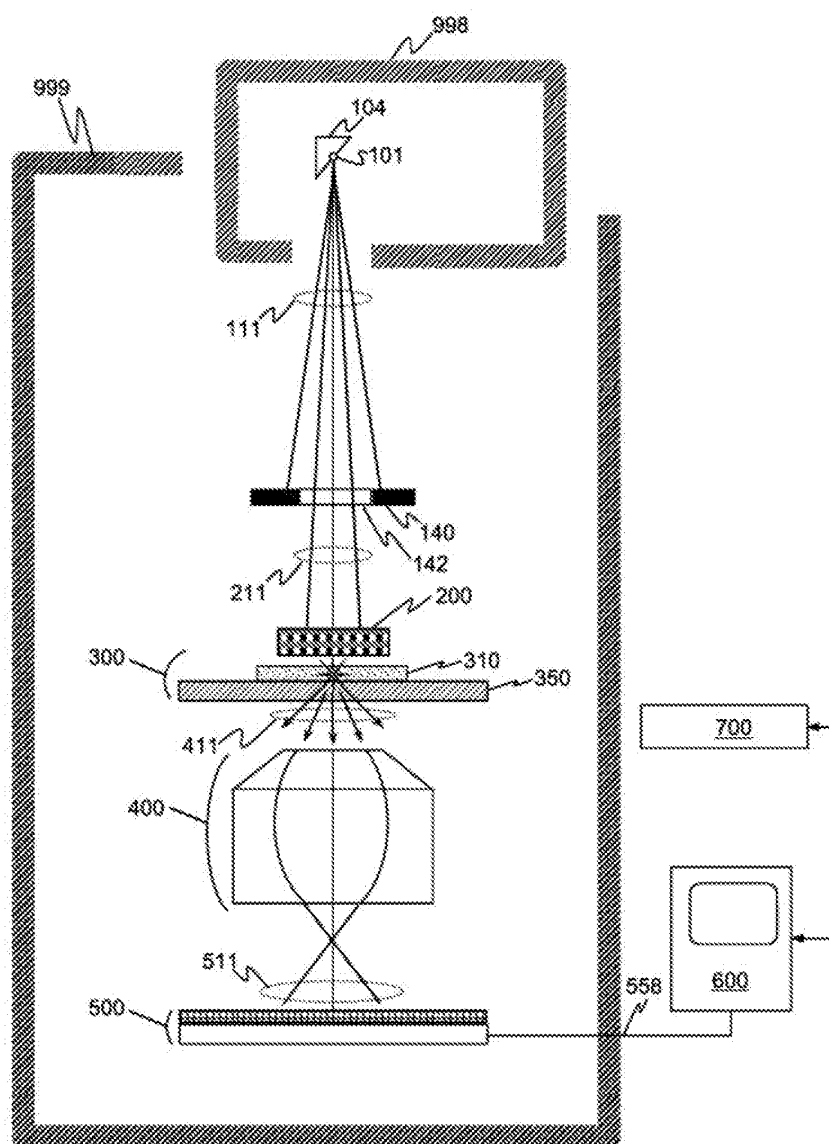
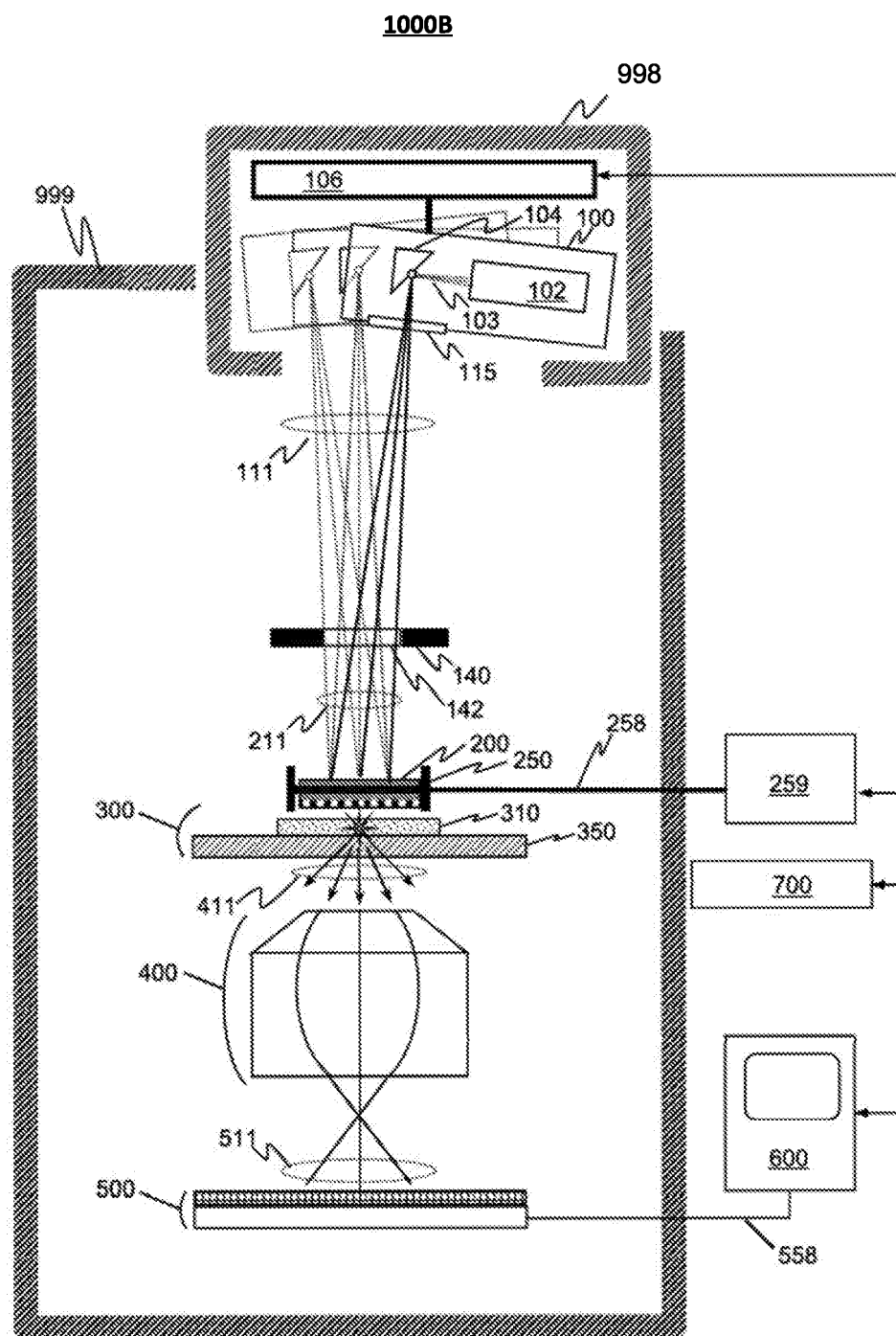


1000A**FIG. 1A**

**FIG. 1B**

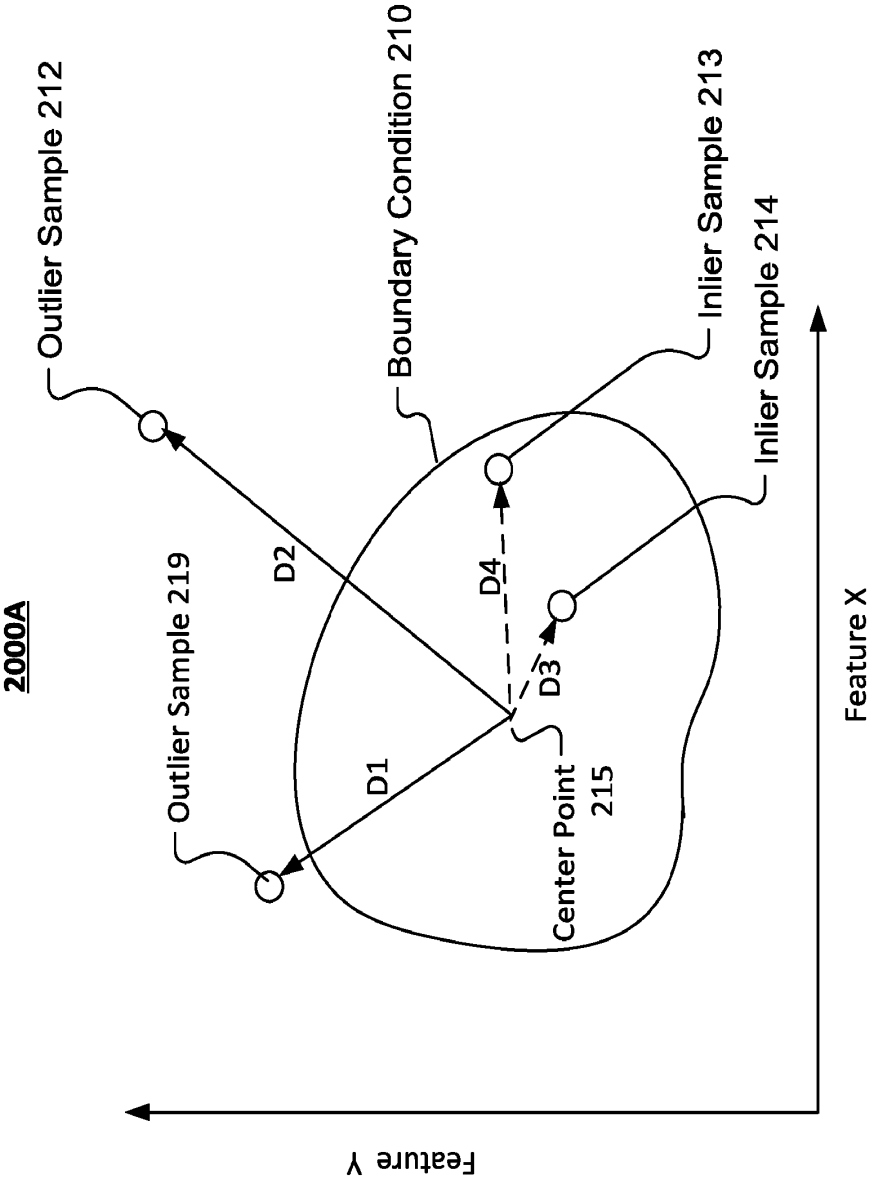


FIG. 2A

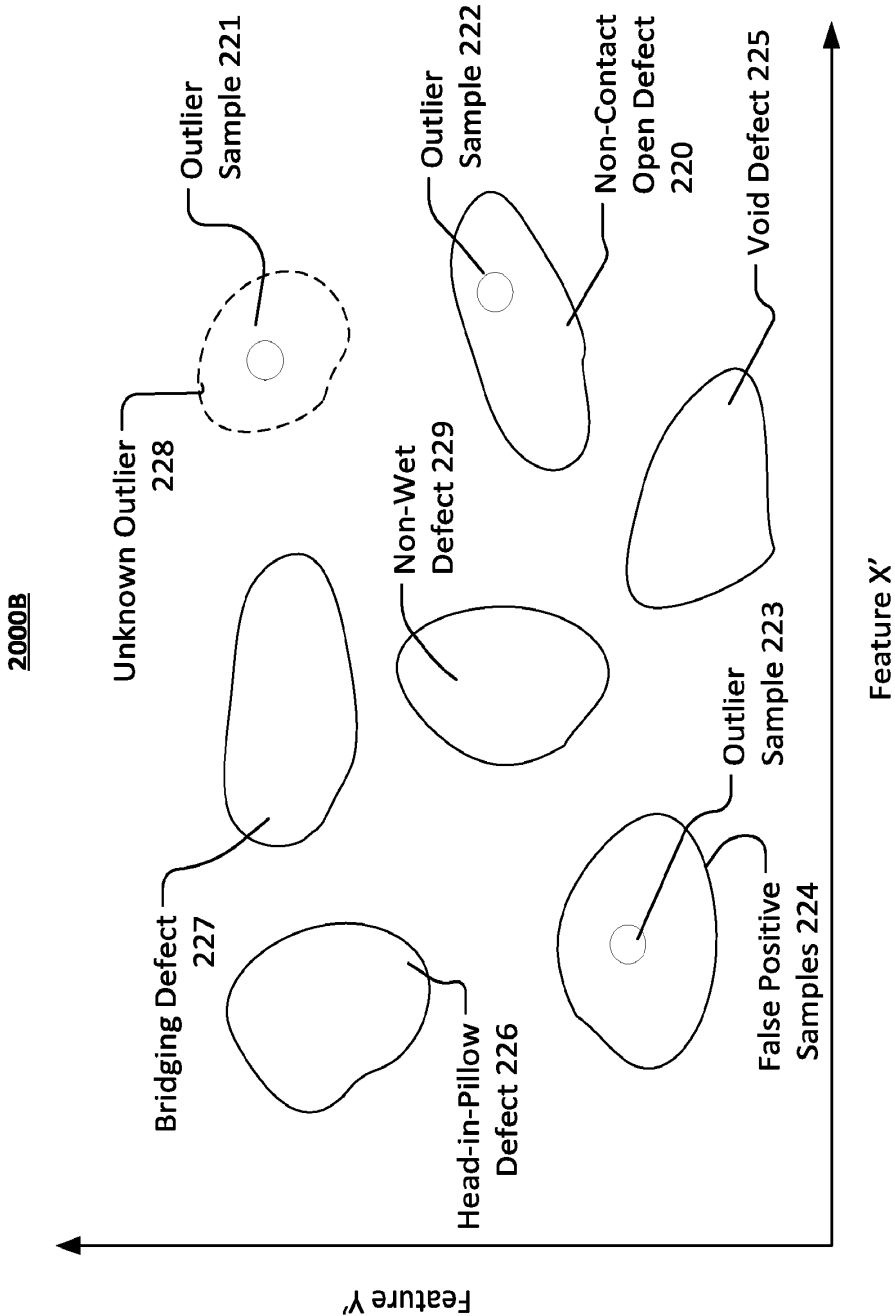


FIG. 2B

3000

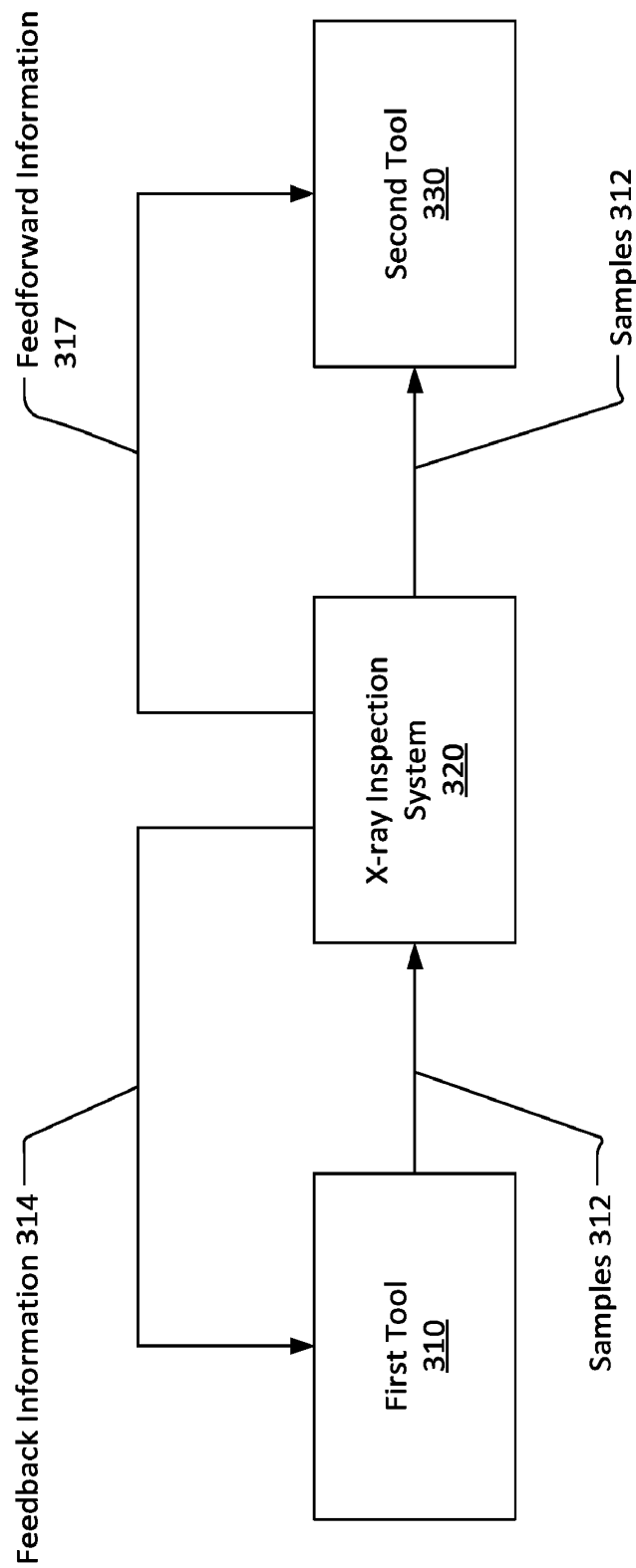


FIG. 3

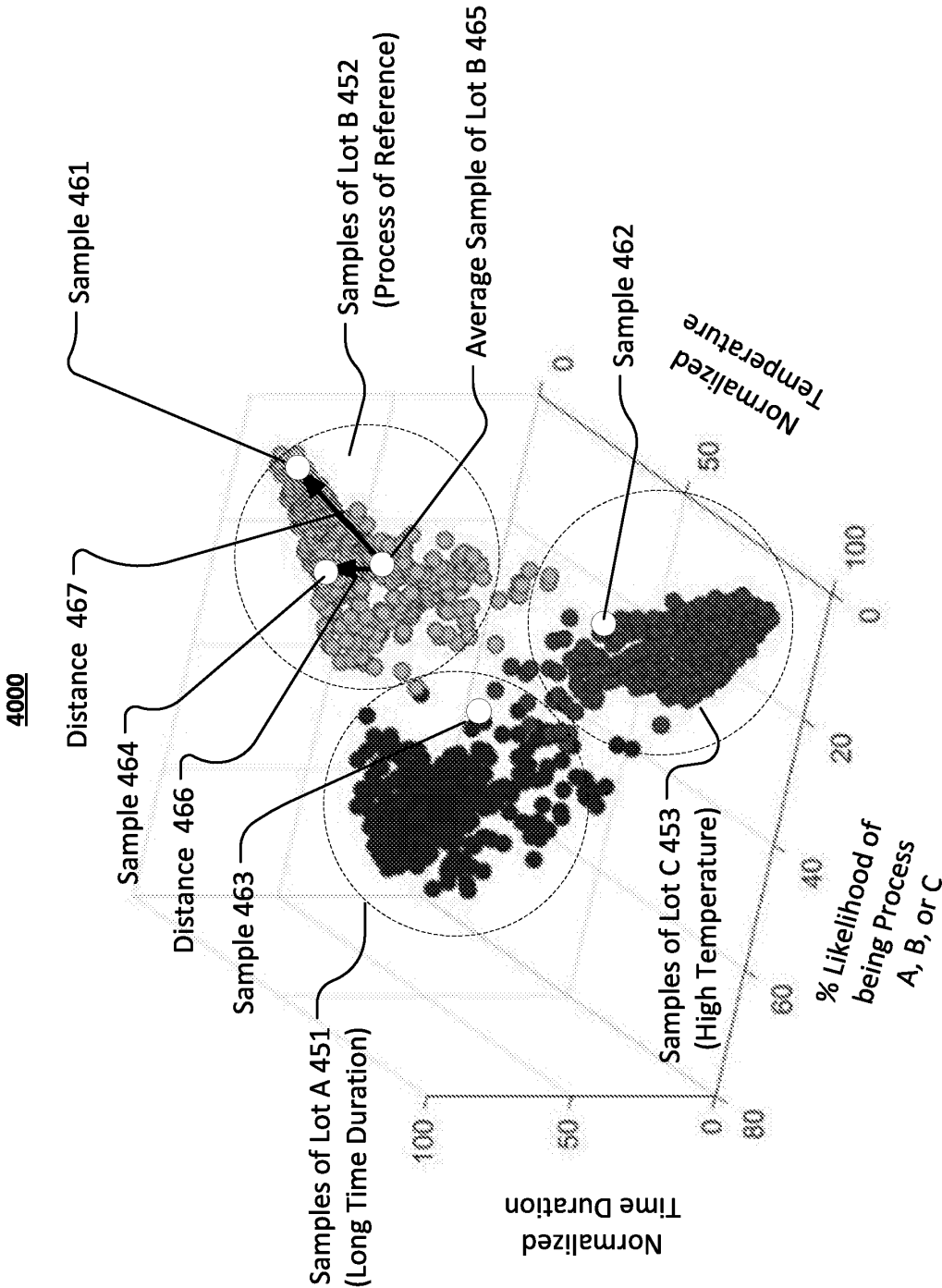


FIG. 4

5000

Capture one or more X-ray images for one or more samples of interest that have been processed by a first tool, wherein the X-ray inspection system is inline with the first tool, and wherein the X-ray inspection system has an inspection speed of 300 square mm per minute or greater
510

Determine, in real-time, metrology information related to the one or more samples of interest based on the one or more X-ray images, wherein the metrology information indicates that a sample parameter associated with the one or more samples of interest is outside of a pre-determined threshold range associated with the sample parameter
520

Provide, responsive to the real-time determination that the sample parameter is outside of the pre-determined threshold range, instructions to one or more of the first tool or one or more second tools to adjust one or more process parameters associated with the respective tools based on the metrology information related to the one or more samples of interest, wherein the adjusted process parameters reduces a processing error probability, of the respective tool for processing subsequent samples, related to the sample parameter being outside of the pre-determined range
530

FIG. 5