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(54) Title: APPARATUS AND METHODS FOR IMPLEMENTING PREDICTED SYSTEMATIC ERROR CORRECTION IN
LOCATION SPECIFIC PROCESSING

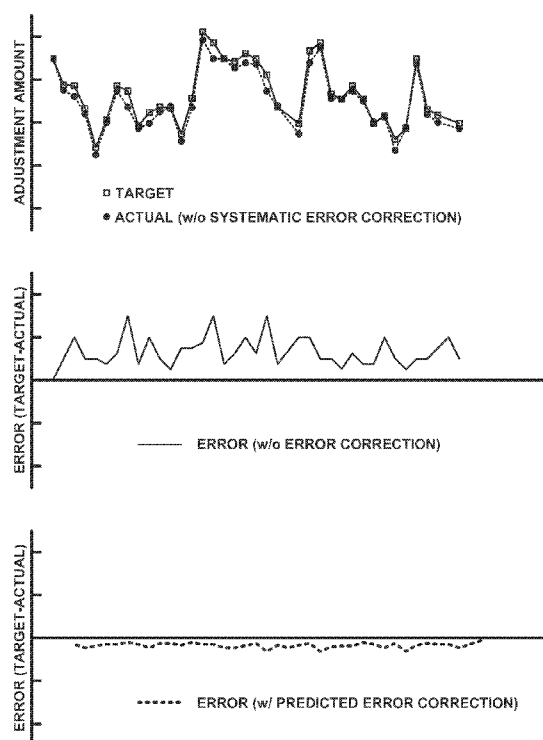


FIG. 4

(57) Abstract: A method of modifying an upper layer of a work-
piece using a gas cluster ion beam (GCIB) is described. The meth-
od includes collecting parametric data relating to an upper layer of
a workpiece, and determining a predicted systematic error response
for applying a GCIB to the upper layer to alter an initial profile of a
measured attribute by using the parametric data. Additionally, the
method includes identifying a target profile of the measured attrib-
ute, directing the GCIB toward the upper layer of the workpiece,
and spatially modulating an applied property of the GCIB, based at
least in part on the predicted systematic error response and the
parametric data, as a function of position on the upper layer of the
workpiece to achieve the target profile of the measured attribute.

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