

EXHIBIT 4



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(12) **United States Patent**
Purdy

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(54) **ADJUSTING WEIGHTING OF A
PARAMETER RELATING TO FAULT
DETECTION BASED ON A DETECTED
FAULT**

IPC B23B 49/00; B23Q 15/00,15/007,
B23Q 15/12, 17/00, 17/904, 17/952, 17/10,
B23Q 17/12, 17/20; G05B 13/00; G06F 11/00,
G06F 11/30, 11/3058, 11/32, 17/00, 17/40,
G06F 19/00

(75) Inventor: **Matthew A. Purdy**, Austin, TX (US)

See application file for complete search history.

(73) Assignee: **Advanced Micro Devices, Inc.**,
Sunnyvale, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 1564 days.

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G06F 11/30 (2006.01)
G06F 17/40 (2006.01)
G06F 19/00 (2011.01)
B23Q 17/00 (2006.01)

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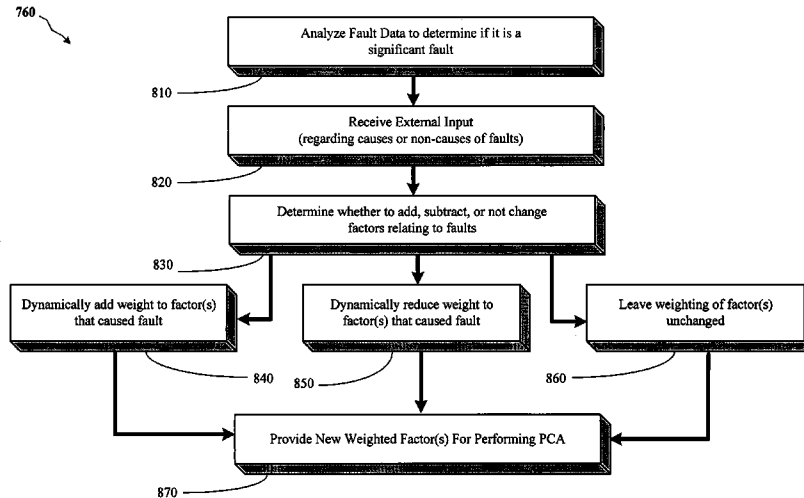
Primary Examiner — Edward Cosimano

(58) **Field of Classification Search**
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702/189; 73/865.8, 865.9; 438/5, 6, 7, 8, 9,
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700/1, 11, 21, 79, 90, 95, 96, 108, 109,
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700/175; 708/100, 105, 200; 714/1, 25, 37,
714/48, 100

(57) **ABSTRACT**

A method, apparatus and a system, for provided for performing a dynamic weighting technique for performing fault detection. The method comprises processing a workpiece and performing a fault detection analysis relating to the processing of the workpiece. The method further comprises determining a relationship of a parameter relating to the fault detection analysis to a detected fault and adjusting a weighting associated with the parameter based upon the relationship of the parameter to the detected fault.

31 Claims, 8 Drawing Sheets



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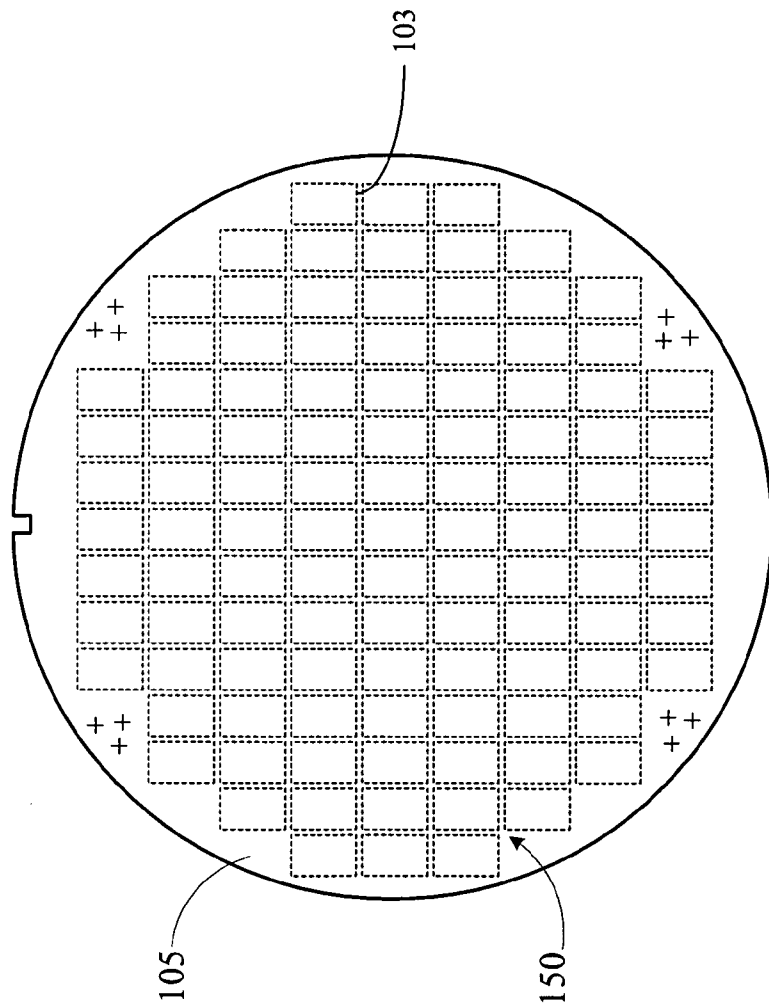


FIGURE 1 (Prior Art)

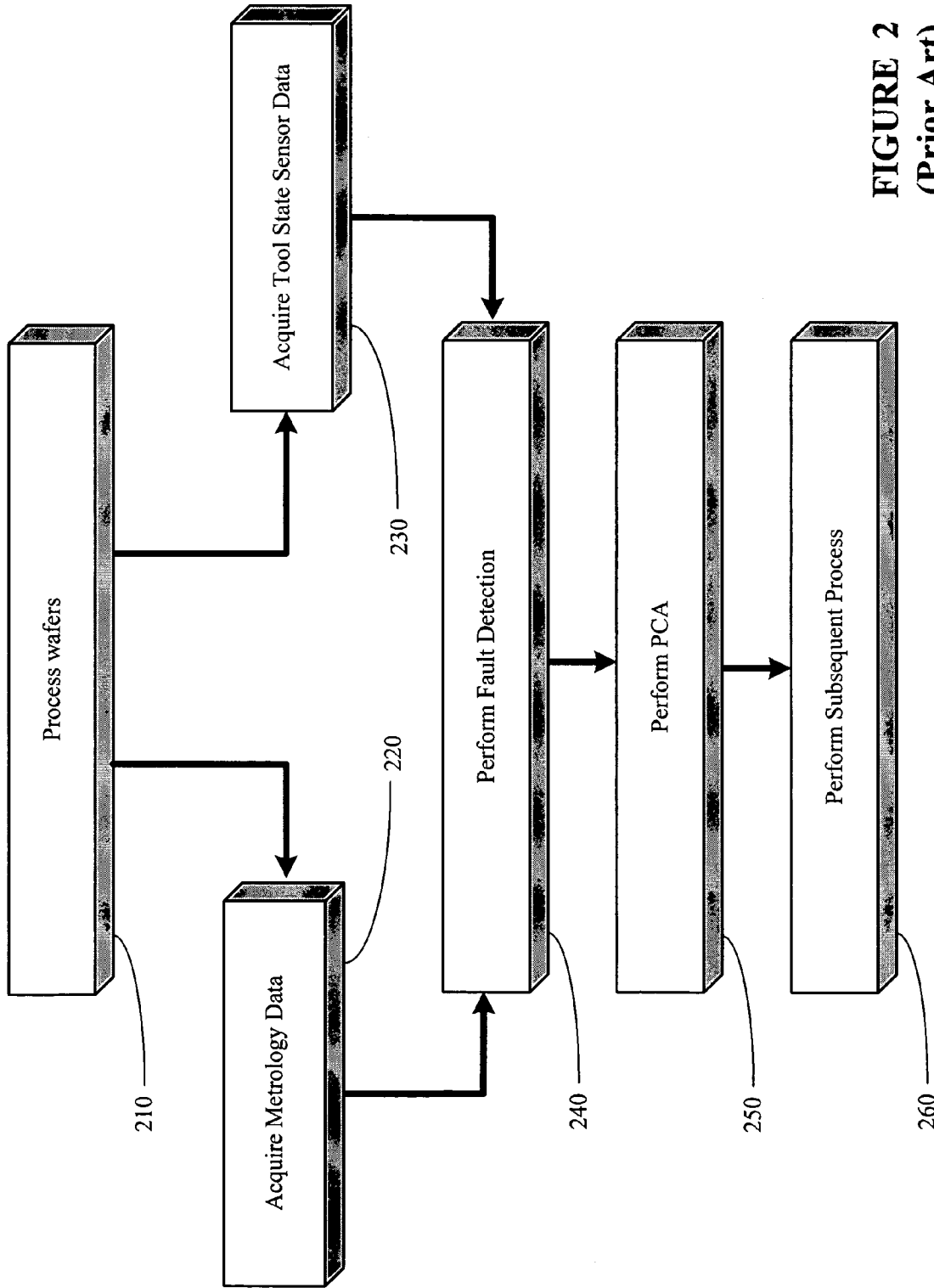


FIGURE 2
(Prior Art)

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