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(54) **ANOMALY DETECTION BASED ON DIRECTIONAL DATA**

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G06F 11/00   (2006.01)
(52) **U.S. Cl.**
USPC **714/799**; 714/760; 712/76; 382/197; 707/100
(58) **Field of Classification Search**
USPC 714/799, 760; 712/26; 382/197; 707/100; 6/799
See application file for complete search history.

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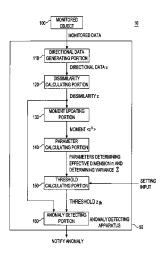
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(57)   **ABSTRACT**

Properly detects an anomaly on the basis of directional data that are obtained in sequence from a monitored object. An anomaly detecting method includes: sequentially generating directional data indicating a feature of each piece of monitored data correspondingly to the monitored data which are input in sequence; calculating the dissimilarity of the directional data to a reference vector; updating a moment of the distribution of the dissimilarity appearing when the directional data is modeled with a multi-dimensional probability distribution, based on the moment already corresponding to the monitored data; calculating a parameter determining the variance of the multi-dimensional probability distribution, on the basis of the moment; calculating a threshold of the dissimilarity on the basis of the multi-dimensional probability distribution the variance of which is determined by the parameter; and detecting an anomaly in the monitored data that corresponds to the dissimilarity if the dissimilarity exceeds the threshold.

16 Claims, 10 Drawing Sheets