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(54) **ANALYSIS SYSTEM AND METHOD FOR REDUCING THE CONTROL FLOW DIVERGENCE IN THE GRAPHICS PROCESSING UNITS (GPUS)**

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(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

The invention discloses an analysis system and method for reducing control flow divergence in the Graphics Processing Units (GPUs). A computing unit is used to count the number of branch, number of cycle, and to calculate at least one direction ratio. A profiler is used to determine whether the code having the optimized control flow structure and the specialized branch or not. The optimization decision unit can be used to transform the sub-control flow structure.

14 Claims, 4 Drawing Sheets

