

ABSTRACT

Embodiments of the present invention provide a method and an apparatus for refreshing a flash memory device, so as to implement optimization of a refresh operation on a flash memory device. The method includes: reading, by a storage controller, first data from a first flash memory block, and determining a bit error rate of the first data; when the bit error rate is greater than a preset threshold, determining, by the storage controller, a refresh cycle of the first flash memory block according to a quantity of erase cycles of the first flash memory block; and performing a refresh operation on the first flash memory block according to the determined refresh cycle. In the embodiments of the present invention, in consideration of process variation among flash memory blocks of a flash memory device, an actual bit error rate of a flash memory block is monitored by using a granularity of per flash memory block, thereby exploiting performance potential of the flash memory block to the greatest extent. Not only correctness of stored data is ensured, but also update of a refresh cycle is postponed to the greatest extent. A speed of wear of the flash memory block because of refresh operations is reduced, thereby improving overall performance of the flash memory device.

FIGURE 4