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[Continued on next page]

(54) **Title**: ENHANCED ECONOMY REFRIGERATION CONTROL SYSTEM

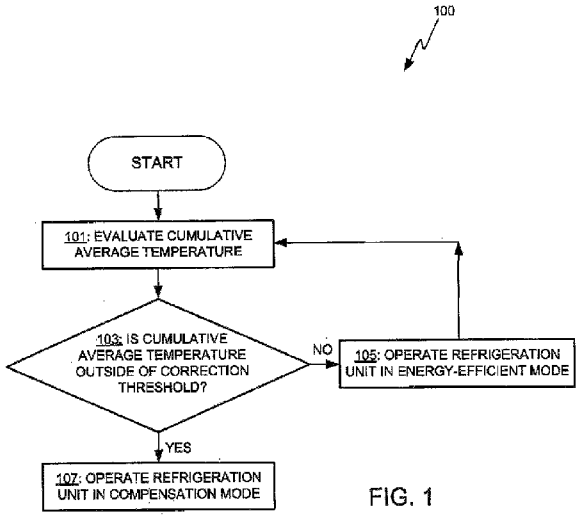


FIG. 1

(57) **Abstract**: A controller for controlling a refrigeration unit, a method, and a refrigeration system are disclosed. In an illustrative embodiment, a controller stores instructions for a first refrigeration setting and a second refrigeration setting, tracks a cumulative average temperature in a refrigeration element, and activates either the first refrigeration setting or the second refrigeration setting. The first refrigeration setting has a lower average power consumption and a higher range of temperature variation than the second refrigeration setting. The controller activates the first refrigeration setting until the cumulative average temperature goes outside a selected temperature range; then the controller activates the second refrigeration setting until the cumulative average temperature is within a target temperature range that has a lower threshold that is greater than the lower threshold of the selected temperature range and an upper threshold that is less than the upper threshold of the selected temperature range.

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