What is claimed is:

1. A fan system installed in a location having a floor and a ceiling, the fan system comprising:

(a) a rotatable hub;

(b) plurality of fan blades secured to the hub;

(c) a motor in communication with the hub, wherein the motor is operable to drive the hub at a selectable rate of rotation;

(d) a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub;

(e) an upper temperature sensor positioned near the ceiling, wherein the upper temperature sensor is configured to sense the temperature of air near the ceiling, wherein the upper temperature sensor is in communication with the motor controller; and

(f) a lower temperature sensor positioned near the floor, wherein the lower temperature sensor is configured to sense the temperature of air near the floor, wherein the lower temperature sensor is in communication with the motor controller;

wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub based at least in part on differences between temperatures communicated from the upper temperature sensor and temperatures communicated from the lower temperature sensor.

2. The fan system of claim 1, wherein the motor controller is configured to compare temperatures communicated from the upper temperature sensor to temperatures communicated from the lower temperature sensor.

3. The fan system of claim 2, wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub to minimize differences between temperatures communicated from the upper temperature sensor and temperatures communicated from the lower temperature sensor.

4. The fan system of claim 1, wherein the motor controller comprises a processor and a variable frequency drive.

5. The fan system of claim 4, wherein the upper temperature sensor and the lower temperature sensor are coupled with the processor, wherein the processor is coupled with the variable frequency drive, wherein the variable frequency drive is coupled with the motor.

6. The fan system of claim 4, wherein the processor comprises a Proportional, Integral, Derivative (PID) controller.

7. The fan system of claim 6, wherein the PID is associated with a set value (SV) of zero.

8. The fan system of claim 7, wherein the PID is further associated with a process variable (PV), wherein the process variable represents the difference between a temperature sensed by the upper temperature sensor and a temperature substantially contemporaneously sensed by the lower temperature sensor.

9. The fan system of claim 8, wherein the PID is configured to process errors between the SV and PV values through a PI loop logic.

10. The fan system of claim 1, further comprising a humidity sensor, wherein the humidity sensor is configured to sense relative humidity, wherein the humidity sensor is in communication with the motor controller.

11. The fan system of claim 10, wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub based further at least in part on a humidity level communicated from the humidity sensor.

12. The fan system of claim 11, wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub using a selected rate of acceleration, wherein the motor controller is configured to select the rate of acceleration based at least in part on the humidity level communicated from the humidity sensor.

13. The fan system of claim 1, wherein the motor controller is configured to provide a first mode of operation and a second mode of operation, wherein the first mode of operation includes a first upper limit on the rate of rotation at which the motor drives the hub, wherein the second mode of operation includes a second upper limit on the rate of rotation at which the motor drives the hub, wherein the second upper limit is higher than the first upper limit.

14. The fan system of claim 13, wherein the first mode of operation further includes a first lower limit on the rate of rotation at which the motor drives the hub, wherein the second mode of operation further includes a second lower limit on the rate of rotation at which the motor drives the hub, wherein the second lower limit is higher than the first lower limit.

15. A method of operating a fan, the method comprising:

(a) providing a fan, wherein the fan comprises:

(i) a rotatable hub,

(ii) a plurality of fan blades secured to the hub,

(iii) a motor in communication with the hub, wherein the motor is operable to drive the hub at a selectable rate of rotation, and

(iv) a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub,

wherein the fan is provided in a place having a floor and a ceiling;

(b) providing an upper temperature sensor near the ceiling, wherein the upper temperature sensor is configured to sense the temperature of air near the ceiling;

(c) providing a lower temperature sensor near the floor, wherein the lower temperature sensor is configured to sense the temperature of air near the floor;

(d) receiving a temperature reading from the upper temperature sensor;

(e) receiving a temperature reading from the lower temperature sensor; and

(f) adjusting the rate of rotation at which the motor drives the hub based at least in part on differences between the received temperature readings from the upper and lower temperature sensors.

16. The method of claim 15, wherein the act of adjusting the rate of rotation comprises automatically adjusting the rate of rotation to minimize differences between subsequent temperature readings from the upper and lower temperature sensors.

17. The method of claim 16, further comprising:

(a) continuously receiving temperature readings from the upper temperature sensor;

(b) continuously receiving temperature readings from the lower temperature sensor; and

(c) continuously adjusting the rate of rotation at which the motor drives the hub based at least in part on differences between the continuously received temperature readings from the upper and lower temperature sensors.

18. The method of claim 15, further comprising:

(a) providing a humidity sensor, wherein the humidity sensor is configured to sense relative humidity;

(b) receiving a relative humidity reading from the humidity sensor; and

(c) adjusting the rate of rotation at which the motor drives the hub based further at least in part on the humidity reading.

19. A method of installing a fan system in a place having a floor and a ceiling, the method comprising:

(a) coupling a fan with the ceiling, wherein the fan comprises:

(i) a rotatable hub,

(ii) a plurality of fan blades secured to the hub,

(iii) a motor in communication with the hub, wherein the motor is operable to drive the hub at a selectable rate of rotation, and

(iv) a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub;

(b) installing an upper temperature sensor near the ceiling;

(c) coupling the upper temperature sensor with the motor controller;

(d) installing a lower temperature sensor near the floor; and

(e) coupling the lower temperature sensor with the motor controller.

20. The method of claim 19, further comprising:

(a) installing a humidity sensor; and

(b) coupling the humidity sensor with the motor controller.

What is claimed is:

1. A ceiling fan system operable for substantially maintaining uniform air temperature in a location having a floor and a ceiling, the ceiling fan system including:

a rotatable hub;

plurality of fan blades secured to the hub;

a motor in communication with the hub, wherein the motor is adjustably operable to drive the hub at a selectable rate of rotation;

a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub;

an upper temperature sensor positioned near the ceiling, wherein the upper temperature sensor is configured to sense the temperature of air near the ceiling, wherein the upper temperature sensor is in communication with the motor controller; and

a lower temperature sensor positioned near the floor, wherein the lower temperature sensor is configured to sense the temperature of air near the floor, wherein the lower temperature sensor is in communication with the motor controller;

wherein in an operating condition, the motor controller receives an input from the upper temperature sensor and the lower temperature sensor substantially contemporaneously at regular intervals;

wherein the motor controller determines the select rate of rotating the hub dependent on a comparison of sensed temperature difference between the received input temperature values and a predetermined set value based on a target temperature difference between the upper and lower sensor; and

whereby as the sensed temperature difference within the location varies from the predetermined set value the motor controller controls the motor to adjust the rotation of the hub effective to substantially maintain uniform temperature in the location.

2. The ceiling fan system of claim **1**, wherein the motor controller includes at least a first mode of operation and a second mode of operation such that the motor controller operates in the first mode to control rotation of the hub when sensed temperature from the lower

temperature sensor is lower than a predetermined temperature; and whereby the motor controller operates in the second mode of operation to control rotation of the hub when the upper temperature sensor detects a temperature higher than a predetermined temperature; wherein rotation of the hub is adjusted by the motor controller in the first and second modes of operation to effect destratification in the sensed areas.

3. The ceiling fan system of claim **1** further including a humidity sensor wherein the humidity sensor is configured to sense relative humidity in the location including at least a first value and a second value, wherein the second value is higher than the first value, wherein the humidity sensor is in communication with the motor controller, whereby the motor controller is configured to substantially automatically adjust the rate of rotation at which the motor drives the hub based further at least in part on a humidity level communicated from the humidity sensor; and wherein the motor controller is operable to adjust the rate of rotation at which the motor drives the hub to increase or decrease the rate of rotation in response to an increase in relative humidity communicated from the humidity sensor.

4. The ceiling fan system of claim **1**, wherein the motor controller includes a processor and a variable frequency drive.

5. The ceiling fan system of claim **4**, wherein the upper temperature sensor and the lower temperature sensor are coupled with the processor, wherein the processor is coupled with the variable frequency drive, wherein the variable frequency drive is coupled with the motor.

6. The ceiling fan system of claim **4**, wherein the processor includes a Proportional, Integral, Derivative (PID) controller.

7. The ceiling fan system of claim **6**, wherein the PID is associated with a set value (SV) of zero.

8. The ceiling fan system of claim **7**, wherein the PID is further associated with a process variable (PV), wherein the process variable represents the difference between a temperature sensed by the upper temperature sensor and a temperature substantially contemporaneously sensed by the lower temperature sensor.

9. The ceiling fan system of claim **8**, wherein the PID is configured to process errors between the SV and PV values through a PI loop logic.

10. The ceiling fan system of claim **1**, further including a humidity sensor, wherein the humidity sensor is configured to sense relative humidity, wherein the humidity sensor is in communication with the motor controller.

11. The ceiling fan system of claim **10**, wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub based further at least in part on a humidity level communicated from the humidity sensor.

12. The ceiling fan system of claim **11**, wherein the motor controller is configured to automatically adjust the rate of rotation at which the motor drives the hub using a selected rate of acceleration, wherein the motor controller is configured to select the rate of acceleration based at least in part on the humidity level communicated from the humidity sensor.

13. The ceiling fan system of claim **1**, wherein the motor controller is configured to provide a first mode of operation and a second mode of operation, wherein the first mode of operation includes a first upper limit on the rate of rotation at which the motor drives the hub, wherein the second mode of operation includes a second upper limit on the rate of rotation at which the motor drives the hub, wherein the second upper limit is higher than the first upper limit.

14. The ceiling fan system of claim **13**, wherein the first mode of operation further includes a first lower limit on the rate of rotation at which the motor drives the hub, wherein the second mode of operation further includes a second lower limit on the rate of rotation at which the motor drives the hub, wherein the second lower limit is higher than the first lower limit.

15. A method of operating a ceiling fan, the method including:

providing a ceiling fan system including:

a rotatable hub,

a plurality of fan blades secured to the hub,

a motor in communication with the hub, wherein the motor is operable to drive the hub at a selectable rate of rotation, and

a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub, wherein the fan is provided in a place having a floor and a ceiling;

providing an upper temperature sensor near the ceiling, wherein the upper temperature sensor is configured to sense the temperature of air near the ceiling, and wherein the upper temperature sensor is in communication with the motor controller;

providing a lower temperature sensor near the floor, wherein the lower temperature sensor is configured to sense the temperature of air near the floor, wherein the lower temperature sensor is in communication with the motor controller;

wherein the motor controller receives a temperature reading from the upper temperature sensor and a temperature reading from the lower temperature sensor, whereby the motor controller determines a select rate of rotating the hub dependent on sensed differences between the upper and lower sensors; and

wherein the rate of rotation at which the motor drives the hub is adjusted by the motor controller based at least in part on differences between the received temperature readings from the upper and lower temperature sensors.

16. The method of claim **15**, wherein the act of adjusting the rate of rotation includes automatically adjusting the rate of rotation to minimize differences between subsequent temperature readings from the upper and lower temperature sensors.

17. The method of claim **16**, further including:

continuously receiving temperature readings from the upper temperature sensor;

continuously receiving temperature readings from the lower temperature sensor; and

continuously adjusting the rate of rotation at which the motor drives the hub based at least in part on differences between the continuously received temperature readings from the upper and lower temperature sensors.

18. The method of claim **15**, further including:

providing a humidity sensor, wherein the humidity sensor is configured to sense relative humidity;

receiving a relative humidity reading from the humidity sensor; and

adjusting the rate of rotation at which the motor drives the hub based further at least in part on the humidity reading.

19. A method of installing a ceiling fan system in a place having a floor and a ceiling, the method including:

coupling a fan with the ceiling, wherein the fan includes:

a rotatable hub,

a plurality of fan blades secured to the hub,

a motor in communication with the hub, wherein the motor is operable to drive the hub at a selectable rate of rotation, and

a motor controller in communication with the motor, wherein the motor controller is configured to select the rate of rotation at which the motor drives the hub;

installing an upper temperature sensor near the ceiling;

coupling the upper temperature sensor with the motor controller;

installing a lower temperature sensor near the floor; and

coupling the lower temperature sensor with the motor controller.

20. The method of claim **19**, further including:

installing a humidity sensor; and

coupling the humidity sensor with the motor controller.