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A Time Stretch Supply Method to Reduce the Power Line Loss

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For a cable based sensor network, power line loss restricts the cable length and cable copper diameter. In this paper, we propose a time stretch method to reduce the power line loss for a sensor network. A sensor network usually works in burst mode, when it works a high current consumption is required, while in idle state it need little power energy. This method uses a super capacitor to collect and store the energy in idle time for each Sensor Unit (SU), so when it changes to active state the SU can use the local power to work, and would not absorb high current from the cable. Since the power line loss is proportional to the square of the current, the lower current can reduce the line loss significantly. The results shows that this method can reduce the line loss to less than 10%. This method can be used to extend the length of the sensor network cable, or make it is possible to use much finer cable copper core.

Minioral

Yes

Description

method for line power loss

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