Sensor Network (SN) is similar to a general purpose. Mobile Ad-Hoc Network (MANET) in a lot of aspects, they are distributed, self-organized, Multi hopped, lack of fixed infrastructure. The main difference lies in that fact that the former basically has lower cost, slower rate bandwidth, and higher redundancy, and are more power-constrained, thus almost all of the previous efforts have been put on how to modify the existed MANET networking techniques so that they are more owner-efficient without losing too much QoS. This survey will review the past literatures on what have been tailored to adopt to the new features of SN, and resolve around the key issue of power saving. The past works are scattered across all of the system layers: from physical layer to data link layer, to network and application layer. Given the physical limits of these compact microsensor, people have suggested various kinds of methods in network architecture, channel usage, routing protocol, etc. Among them distributed, dynamic, application-oriented solutions are of major interests. While centralized, static methods are not adopted in practice, they are more important from theoretical point of view, since they not only can provide deep insights about the fundamental problems, but also can serve as benchmarks to compare how good a distributed, dynamic solution

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