ENHANCING WSN LOCALIZATION ROBUSTNESS UTILIZING HPC ENVIRONMENT

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The paper treats the problem of localization in Wireless Sensor Network (WSN). In our work, we present and evaluate Wireless Sensor Network Localization System, which offers network models generator along with different localization methods including Trilateration & Simulated Annealing algorithm. The paper describes extension of WSN Localization System with modules supporting distributed computing in HPC environment. A provided case study concentrate on improving algorithms robustness through parallel solving a huge number of localization tasks. WSN Localization System in distributed version is used for generation a set of test networks with various topology parameters and solving the created localization tasks with very different values of method parameters. Applying distributed computing in our HPC infrastructure allows to speedup calculations by two or- ders of magnitude.

Słowa kluczowe: adhoc

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