

## **Experimental Research on the Autonomous Mobile Robotics**

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### **Abstract**

An experimental research is a useful approach for realizing autonomous mobile robots to work in real environment.

We are developing an autonomous mobile robot platform named "Yamabico" as a tool for experimental real world robotics research. The architecture of Yamabico is based on the concept of centralized decision making and functionally modularization. Yamabico robot has two level structure with behavior and function levels, and its hardware and software are functionally distributed for providing incremental development and good maintainability.

We are using many Yamabico robots in our laboratory to realize the robust navigation technology for autonomous robots.

The methodology for experimental and task-oriented approach of mobile robotics will be presented. And some experimental results of real world navigation in indoor and outdoor environment will be shown.