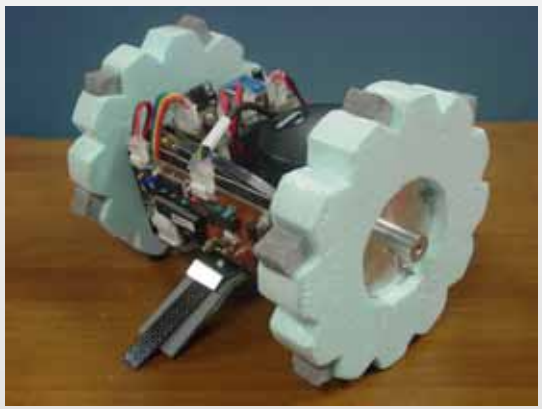
ARLISS2006 Report

Open-Class
Tohoku University
Sekiguteam

Space
Robotics
Laboratory

Our Rover

- **Since 2002, Tohoku University has challenging ARLISS competition by Run-Back approach.**
- **Last year, our laboratory's rover "NOKO NOKO" approached goal and exhausted its battery 222[m] short of goal.**



NOKO NOKO

- **Before we develop our rover, we learned the technologies of "NOKO NOKO"**

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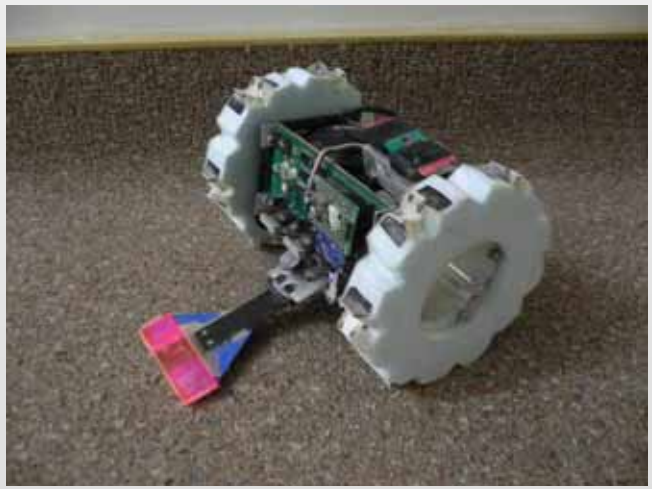
Our Rover

Characteristics of "KORIKI"

1. Use of Two Parachute.
2. High traversability of wheel.
3. Robustness against the shocks of launch and landing.
4. Reliability for opening and separation of the parachute.



KORIKI

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Rover Test

- For two parachute and robustness against landing

  drop test from balloon at 100 [m] in height ; Aug.-Sept. 2006

- For robustness against launch

  vibration tests (max 9G) ; Sept. 5 and 12, 2006

- For separation of parachute

  drop test from step ladder ; Aug.-Sept. 2006

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Trial

- **Sept. 20 , 2006**

Launched by Tomas

Trial

- KORIKI was ejected from rocket just before rocket crashed into the ground.
- KORIKI landed at 1.639 [km] from the goal.
- Parachute separation mode was failed, but KORIKI separated parachute by mode to avoid ruts.
- Navigation mode was successfully started.

Trial

- KORIKI's bearing of left wheel was warped when it landed.
- Because of warp, KORIKI advanced to left of the goal.
- By grace of integral gain, KORIKI gradually advanced to the goal.
- KORIKI successfully traversed ruts.

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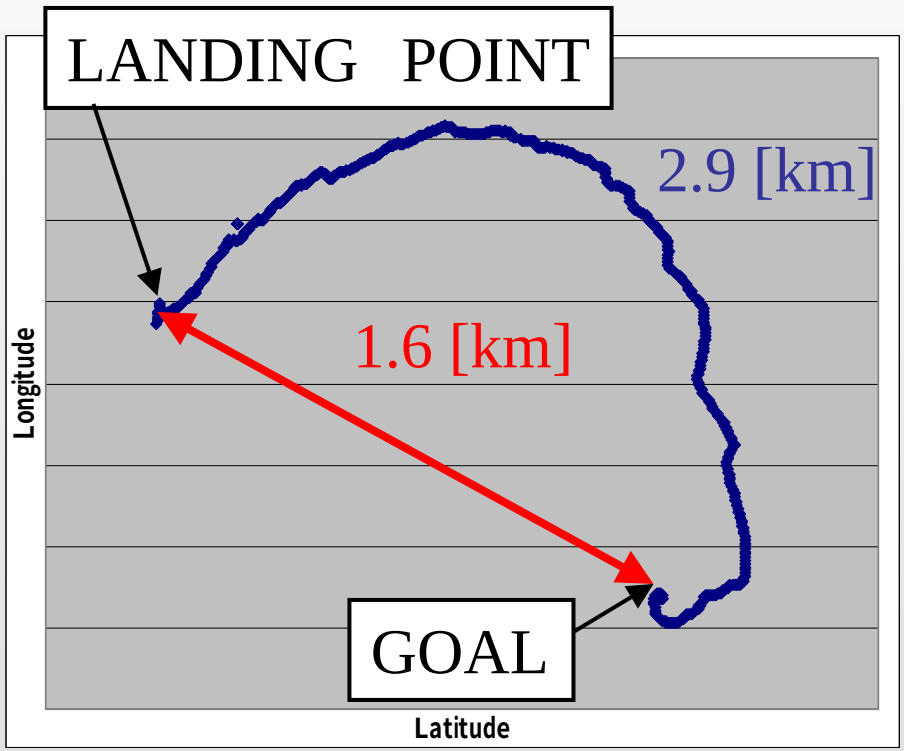
Goal

- **Because KORIKI realized goal position, it stopped at 6 [m] from the goal.**



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