

1. Hardware

1.1 Drive

Kind of drive		
- Differential drive		11
- Omni-drive		15
- other		2
Number of active wheels	2	9
	2/3	2
	2/4	3
	3	7
	4	3
Number of passive wheels	0	11
	1/0	1
	2/0	2
	1	6
	1/2	1
	2	3
Maximum speed of robot (m/s)	1-2	13
	2-4	9
	4<	1
Motor power	20-100	16
	100-400	4
	400<	1
Motor voltage	12	4
	12/24	2
	22	1
	24	16
Research topic		5
Remarks and references		5

1.2 Motor controller

Micro controller, Type is		19
Kind of motor control algorithm		
- linear		18
- Fuzzy		1
- non-linear		1
- other		4
Interface to robot control		
- CAN-Bus		3
- I2C		
- Serial		15
- USB		4
- Parallel		3
- other		3
Own development		11

Research topic		7
Remarks and references		2

1.3 Kicker

Kind of kicker		
- pneumatic		9
- electric		11
- spring		7
- other		
Ball handling		
- only passive		17
- rotating cylinder		4
- active fingers		1
- other		1
Research topic		9
Remarks and references		4

1.4 Sensors

Distance sensors		
- infra-red		4
- sonar		4
- laser range finder		5
- other		1
Contact sensors (Bumpers)		6
Orientation		
- compass		2
- gyro		1
- inclinometers		
- other		2
Research topic		5
Remarks and references		1

1.5 Visual sensors

Type and number of camera		
- Normal		10
- Omni-directional		21
- Stereo		
Is any camera actuated?		19
- No		3
- Pan		
- Tilt		1
- Pan/Tilt		1
- other		
Camera		
- Frames per second	15	4

	20	1
	25	4
	30	13
	50	1
	60	1
- Analog interface		9
- FIREWire interface		10
- USB interface		4
- Resolution	168x288	1
	256x220	1
	256x256	1
	320x240	5
	320x640	2
	379x262	1
	384x288	1
	390x240	1
	620x480	4
	640x480	4
	764x494	1
- Used color Model	Hsl	1
	RGB	7
	YUV	12
	YUV/RGB	4
Vision processing hardware		
- Vision processing done by PC		19
- Dedicated hardware		4
- Own development		4
- Commercial device		3
Research topic		10
Remarks and references		

1.6 On-board computer

Kind of on-board computer		
- PC mother board		8
-PC Notebook		10
- Embedded PC (PC104, ...)		6
- micro controller		1
- other		2
Operating system		
- Linux		19
- Real-Time Linux		2
- Windows		6
- other		
Research topic		5
Remarks and references		3

1.7 Power supply

Battery voltage	12	6
	12/24	2
	22	1
	24	10
	29/43	1
Battery type		
- Pb		10
- NiCd		7
- Li		2
- other		9
Set of batteries lasts for	30-100	14
	100-300	5
	300<	2
Research topic		1
Remarks and references		

2. Software

2.1 Vision processing		
Processing is done at a frame rate of	3-20	11
	20-30	10
	30<	2
Spatial subsampling used		
- None		10
- Fixed sampling scheme		10
- Adaptive sampling scheme		3
Kind of color segmentation used:		
- clustering		8
- graphical parameter interval setting		5
- graphical regions setting		5
- other		4
Landmark detection uses		
- colors		22
- edges		6
- shapes		4
- texture		2
- other		
Does the landmark detection operate on color blobs		10
Vision library used:		
- own		19
- CMVision		1
- OpenCV		2
- other		4
Auto color calibration		4

Auto spatial calibration		2
Research topic		16
Remarks and references		6

2.2 Robot control

Reactive control		1
- subsumption		6
- motor schema		4
- other		8
Learning algorithms are used to define behaviors/skills		7
Is a path planner used? (name and reference)		7
Artificial neural network		3
Genetic algorithms		2
Research topic		16
Remarks and references		6

2.3 Self localization

Which landmarks are used?		
- goals		18
- lines		11
- corner posts		17
- other		7
- no self localization		1
Which additional sensors are used? (odometry, gyro, ...)	odo	14
	odo/gyro	2
	accelero	1
Uses statistical approaches (monte-carlo, particle filter)		10
Uses Kalman filters		11
Do your robots predict the trajectories of the ball		16
Do your robots predict the trajectories of other robots		7
Precision of self localisation	1-30	15
	3-50	3
	50<	3
Research topic		17
Remarks and references		5

2.4 Team behavior

Team communication uses WLAN 2,4 GHz		22
Team communication uses WLAN 5 GHz		3
Does a robot communicate its position?		20
Does a robot communicate internal states to other robots?		16
Does a robot switch its roles based on roles of other robots?		19
Control of team behavior:		
- Team behavior depends on pose of the robot on the		12

field only		
- Team behavior is decided by a centralized scheduler		5
- Team behavior is contracted by the robots as peers		8
Learning algorithms are used to learn team coordination		5
The behavior of the opponent team is modeled		3
Remarks and references		6

2.5 Simulator

Do you use a simulator for your robots		18
- Simulates a single robot		9
- Simulates a team of robots		12
- Simulates the RoboCup field]		5
Simulates the following sensors (laser, distance, vision, ...) vision		5
Simulated motion of robot		9
- kinematic		13
- dynamic physical model		5
- robot model learnt from experiments		
Is the simulator based on:		6
- a commerical product (product name)		6
- own development (name and reference) non-published simulator		8
Research topic		6
Remarks and references		3

3. Miscellaneous

3.1 Fotos

URL to photo of the robot		24
URL to photo of the goalie		24

3.2 Video

URL to video of the team in action		24
3.3 RoboCup participations		
1997 [*]		2
1998		8
1999		10
2000		11
2001		13
2002		12
2003		21
Newcomer		2

3.4 General Remarks

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