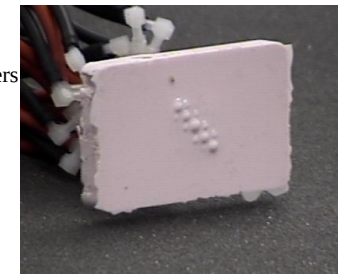
Haptic Interface 2
Chairs: Blake Hannaford, Christian Laugier

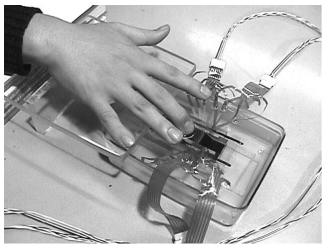
A Compliant Tactile Display for Teletaction
G. Moy, C. Wagner and R. S. Fearing
University of California, Berkeley

- Cheap, compliant, leak free, frictionless tactile display
- One step molds sealed chambers for pneumatic actuation
- 5x5 array, 2.5mm spacing, 180mN peak force, 0.8mm peak displacement
- Grating orientation detectable with 10



Artificial Tactile Feel Display Using Soft Gel Actuators
M. Konyo[1], S. Tadokoro[1], T. Takamori[1] and Keisuke Oguro[2]
[1]Kobe University and [2]Osaka National Research Institute

- Display delicate touch as a surface of cloth using a mechanical device.
- Ciliary device using soft high polymer gel actuator makes various stimuli.
- Comparison with material samples showed variety of generated feels.
- This device can display subtle difference of touch of cloth.

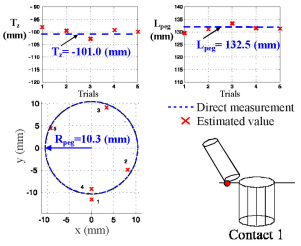


Fingernail Touch Sensors: Spatially Distributed Measurement and Hemodynamic Modeling
S. Mascaro and H. H. Asada
Massachusetts Institute of Technology

- Motivation and Principle
- Vascular Anatomy and Hemodynamic Modeling
- Model Simulation
- Experimental Validation and Conclusion

Automatic Identification of Local Geometric Properties During Teleoperation
T. Debus[1], P. Dupont[1] and R. D. Howe[2]
[1]Boston University and [2]Harvard University

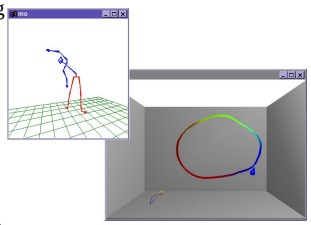
- Use robot sensors to estimate object properties during manipulation
- How: interpret task as sequence of contact states
- Result: method to segment sensor data stream by contact state
- Validation: estimation of 3-D peg-in-hole dimensions during insertion



Properties estimated during contact 1. T_z, L_{peg}, and R_{peg}, are the vertical offset of the hole, the length and radius of the peg.

Using Haptic Vector Fields for Animation Motion Control
B. R. Donald and F. Henle
Dartmouth College

- Want natural method for authoring and editing motions
- C-space is reparameterized by haptic control space
- Haptic force fields implement static/dynamic constraints
- System encourages good motions, discourages bad motions



Perception of Depth Information by Means of a Wire-Actuated Haptic Interface
P. Arcara, L. Di Stefano, S. Mattoccia, C. Melchiorri and G. Vassura
University of Bologna

- Robotic Aid for Blind Persons
- Scene Reconstruction by Stereo Vision
- Perception by Wire-Actuated Haptic Interface
- Experiments with Real-World Scenes