Method for positioning sensing impulses and related device and apparatus

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Invention

The invention includes a mathematical method software actuated and the corresponding device for the best positioning of sensors in arrays made by at least three units. Such positioning method can be used for different types of sensors, so allowing never have two overlapped sensors thus ensuring the best positioning. Furthermore an interconnection with the controller is claimed, either a pc or a device for the array management.

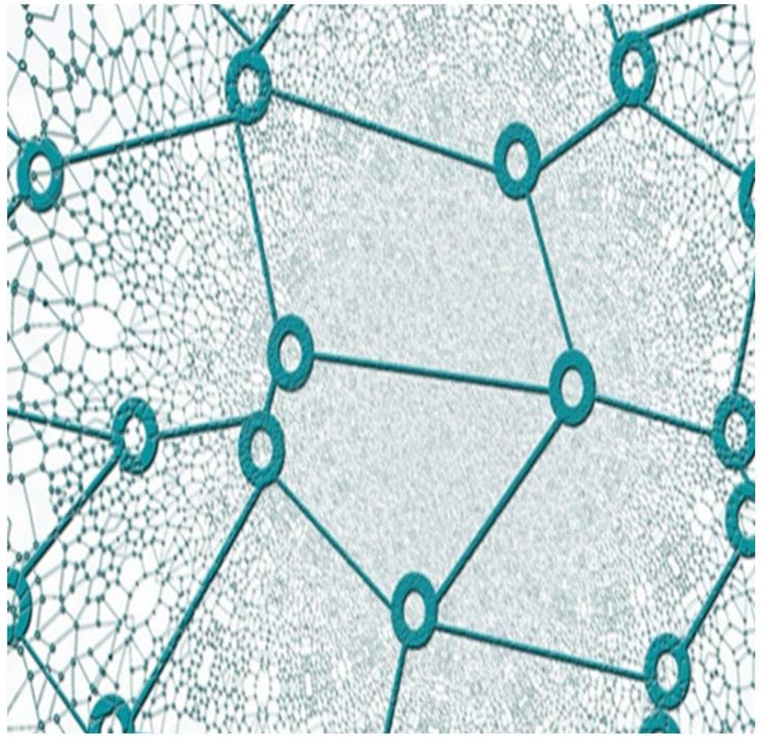
The invention is represented by a device and method for the best positioning of a sensor array through a mathematical model. The device can be weared for the texture surface analysis during the scanning of a finger tip on a surface. The finger tip can be integrated in a human or robotic hand. The sensors, placed at irrational ratio, never equal distances allow an unambiguous differentiation of the step between two next topping, so giving a truly important information during the tactile manipulation.

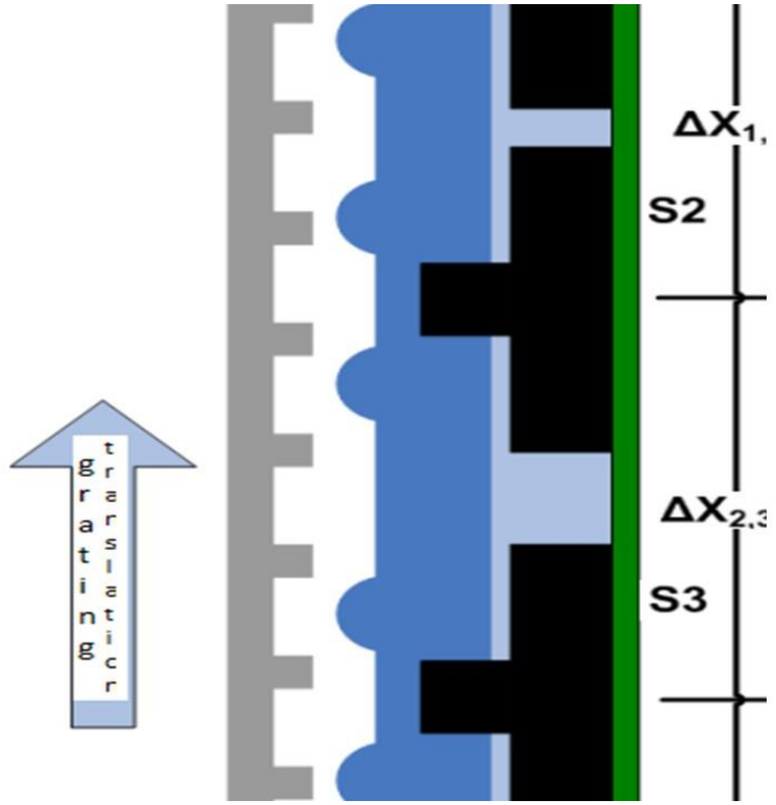
The main advantages are:

- Capability to identify sensing impulses;
- Iper spatial acuity without knowing the slipping speed in advance;
- Best performances of the tactile systems for biomechatronic hands;
- Differenziation of many textures.

Università Campus Bio-Medico di Roma and IIT – Istituto Italiano di Tecnologia are co-owners of the patent.

Drawings
& pictures





Industrial applications

The fields of application are:

- Prosthesis
- Rehabilitation Robotics
- Surgical Robotics
- Scanning Robotics
- Rescue Robotics
- Service Robotics

Possible developments

The research group is interested in obtaining industrial collaborations aimed at increasing the technological maturity of the present invention or industrial partners interested in taking the license of the technology object of this patent.

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