Soft Actuator and Sensor Technologies

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ABSTRACT:

Recently, as new emerging technologies for mechatronic systems, soft actuator and sensors based on ElectroActive Polymer(EAP), called soft transducers become a major interest in the world. The soft transducer has the competitive edge over the other existing ones in terms of high power-to-weight ratio, cost effectiveness and easy of fabrication etc. Moreover, its intrinsic softness promises various innovative applications to be challenged in the future.

In this talk, a comprehensive introduction to the soft transducer technology is given covering fundamentals such as operational physics, materials, fabrications or manufacturing and applications. Especially, this talk mainly stays on the dielectric elastomers, which are evaluated to be one of the most promising technologies among EAPS. Its applications focused on the robotic and haptics are explained. Examples implemented in the real system are introduced and future perspectives are addressed.