

Method and system for acoustic levitation (Technion)

code: COM-1521

The production and inspection of electronic components created on silicon wafers carries a major concern of contamination through microscopic particles. One solution is to levitate the silicon wafer, thereby removing any physical contact with a hard surface. However, the solutions used today involve pumping the air to produce this levitation. As a result of the pumping device, this air cannot be cleaned to a sufficient level. Another solution uses acoustic levitation through standing waves, avoiding the contamination issue. However, current designs have no means to control a wafer's motion in practice. Our method, using a layout of several linear actuators, creates levitation through a layer of compressed air. This solution is clean from sources of contamination, can control levitation and rotation, and reduces wear on the wafer.

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