New n-Type Diamond Semiconductor Synthesized

Growth of n-type diamond semiconductor on (001)-oriented diamond substrate using microwave plasma-enhanced chemical vapor deposition (CVD) technique has been succeeded leading the world. This is a very significant achievement eliminating the restriction of substrate orientation, which has been a bottleneck in the development of diamond electronic devices. Furthermore, UV light emission has been observed with emitting device, which is made using p-n junction of the (001)-oriented diamond semiconductors.

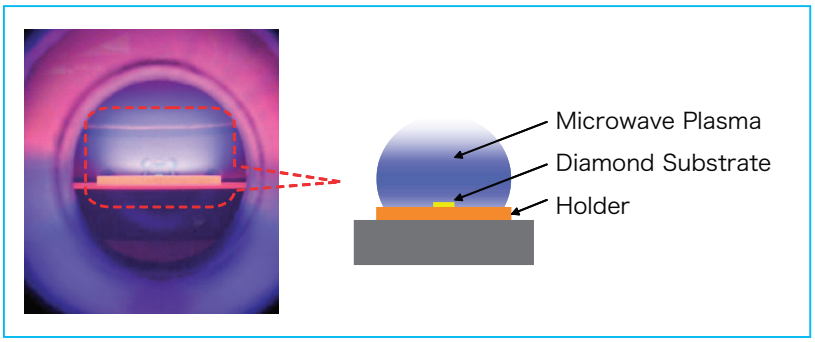

Figure: Microwave plasma CVD process for diamond.

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AIST TODAY Vol.5, No.9 (2005)
p.20-21

Development of a force-torque hybrid haptic interface 'GyroCubeSensuous'

AIST has developed a haptic interface 'GyroCubeSensuous' of force and torque hybrid display in cooperation with the Graduate School of System and Information Engineering, University of Tsukuba. The interface designed to generate both translational force and rotational torque in the virtual reality environment. The 'GyroCubeSensuous' in your palm provides the sense of one-directional movement out of reciprocated vibration of micro-displacement through adroit utilization of human sensory characteristics. This makes you experience an illusion like the interface is getting heavier or lighter, and even lifting in one direction.

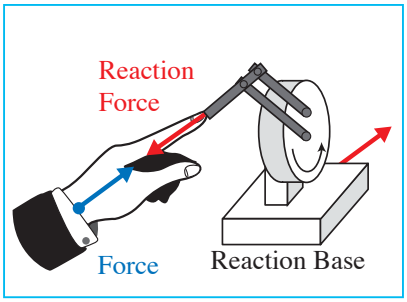

Figure 1: Grounding Interface

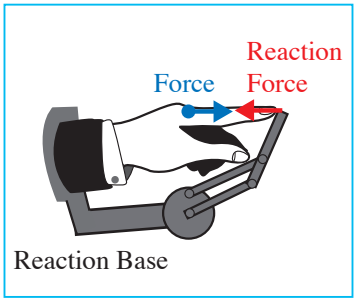

Figure 2: Non-grounding Interface

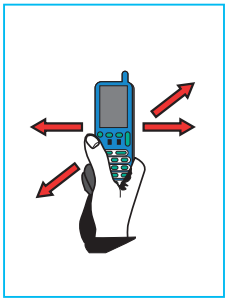

Figure 3: Problem: What do we do, for forcing without Grounding and Reaction Base?

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p.22-23