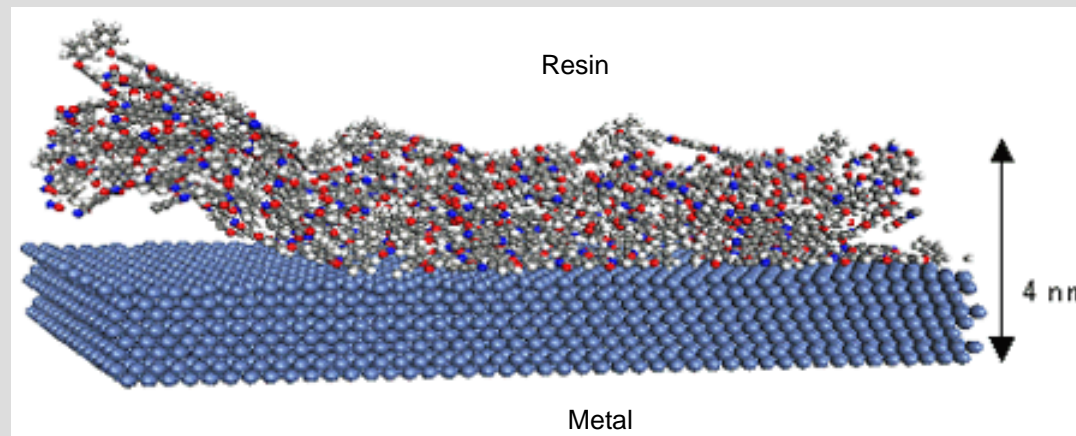


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Development of simulation technology to visualize resin peeling off from metal Enabling selection of highly adhesive coating for wiring in electronic devices



Example of simulated image of resin peeling off from metal

Hitachi, Ltd., in cooperation with the Institute of High Performance Computing of Singapore, has developed a molecular simulation technology with nanometer ($1 \text{ nm} = 1 \times 10^{-9} \text{ m}$) order accuracy to visualize the process in which resin, a coating used on metal wires in electrical wiring, peels off from the wires. The technology developed significantly reduces computational time and provides precise data on the adhesive properties of coatings by applying an interatomic spring model to simulate peeling caused by force applied to the interface between the metal and the resin. As a result, it is now possible to analyze the process of resin peeling off from metal at a molecular level, hitherto difficult with conventional simulation, and reduce the number of repetitive experiments required to investigate adhesion strength.

By employing this technology in the design process, it will be possible to select highly adhesive resin for the metal used in the finer wiring in the next generation electronic devices.