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Title:Effect of copper on the carrier lifetime in black silicon
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Abstract:Black silicon is produced by laser annealing of a-Si:H films. During annealing, silicon microstructures are formed on the surface. We use time-resolved terahertz spectroscopy to study the photoconductivity dynamics in black silicon. We find that when a copper film is deposited on top of the a-Si:H layer prior to laser annealing, the carrier lifetime of black silicon is significantly reduced. © 2011 Springer Science+Business Media, LLC.