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**Mobile Ambipolar Domain in Carbon-nanotube Infrared Emitters**

MARCUS FREITAG, IBM, Watson Research Center, Yorktown Heights, NY 10598

Carbon nanotube field-effect transistors emit infrared light when biased in the ambipolar regime where electrons are injected at one contact and holes at the other. Not only is the radiation confined to the nanometer-scale width of the carbon nanotube, but also along the axis of the tube, due to an electron-hole recombination length on the micron scale. The light spot can be electronically positioned anywhere along the length of the intrinsic carbon nanotube by means of a single back gate. This device constitutes a novel spatially controllable light-source and allows unprecedented insight into electronic transport in nanotube field-effect transistors.