Ultrafast dynamics in unaligned MWCNTs decorated with metal nanoparticles - DTU Orbit (08/11/2017)

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The relaxation dynamics of unaligned multi-walled carbon nanotubes decorated with metallic nanoparticles have been studied by using transient optical measurements. The fast dynamics due to the short-lived free-charge carriers excited by the pump are not affected by the presence of nanoparticles. Conversely, a second long dynamics, absent in bare carbon nanotubes, appears only in the decorated samples. A combination of experiment and theory allows us to ascribe this long dynamics to relaxation channels involving electronic states localized at the tube-nanoparticle interface.

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