

Transient cooling of quasiparticles in K_3C_{60} by mid-infrared laser pulses

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We propose an explanation of the transient superconducting-like optical behavior observed at temperatures as high as ten times T_c in K_3C_{60} irradiated by mid-infrared laser pulses. In our theory the phenomenon is due to the laser pulse effectively cooling down low energy quasiparticles much below the external temperature. The mechanism is quite general and relies on the existence of localised excitations, in K_3C_{60} these are spin-triplet excitons, that act as entropy sink when the laser is on, while, when the laser is off, they release back the stolen entropy very gradually.

The lecture will be held in English.

Cordially invited to attend.

