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Raman spectroscopic study of structural transformations in methacrylate polymer doped with plasmonic gold nanoparticles upon irradiation with high-energy femtosecond laser pulse

Wednesday 7 September 2022 18:00 (30 minutes)

Raman spectroscopy is widely used to characterize different materials through the vibrations of their constituents. It is highly sensitive to changes in bonding configuration, crystalline structure, isotope content, or even internal stress. We report on Raman spectroscopic studies of structural transformations in urethane dimethacrylate/triethylene glycol dimethacrylate copolymer nanocomposite doped with gold nanorods upon irradiation with a high-energy femtosecond laser pulse. The plasmon resonance of the nanorods has been tuned to the 800 nm wavelength of the laser, and the plasmonic enhancement of the electromagnetic field in their vicinity resulted in surplus crosslinking and other alterations in the polymeric structure.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

Wigner Research Centre for Physics, Budapest, Hungary

Is the speaker for that presentation defined?

Yes

Details

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https://wigner.hu/en/infopages/veres.miklos

Internet talk

No

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