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Title:	Disappearance and reappearance of an optical trap for silver nanoparticles under femtosecond pulsed excitation: A theoretical investigation
Authors:	Nair, S.S. (/jspui/browse?type=author&value=Nair%2C+S.S.) De, A.K. (/jspui/browse?type=author&value=De%2C+A.K.)
Keywords:	Nanoparticles Ultrafast pulsed Laser trapping
Issue Date:	2019
Publisher:	IOP Science
Citation:	EPL, 126(2).
Abstract:	Recently, the role of ultrafast pulsed excitation in laser trapping of dielectric nanoparticles has been explored and it was observed that the optical Kerr effect (OKE) plays an important role in determining the stability of the trap. Here, we theoretically investigate the trapping behaviour of metallic (silver) nanoparticles and study the effect of OKE (up to sixth order) under high repetition rate femtosecond pulsed excitation. We observe that the trapping potential is first stabilized, then destabilized and again stabilized with an increase in laser power. This work shows how one can fine-tune the stability of an optical trap for metallic nanoparticles through OKE.
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://iopscience.iop.org/article/10.1209/0295-5075/126/28002">https://iopscience.iop.org/article/10.1209/0295-5075/126/28002</a> ( <a href="https://iopscience.iop.org/article/10.1209/0295-5075/126/28002">https://iopscience.iop.org/article/10.1209/0295-5075/126/28002</a> ) <a href="http://hdl.handle.net/123456789/2322">http://hdl.handle.net/123456789/2322</a> ( <a href="http://hdl.handle.net/123456789/2322">http://hdl.handle.net/123456789/2322</a> )
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