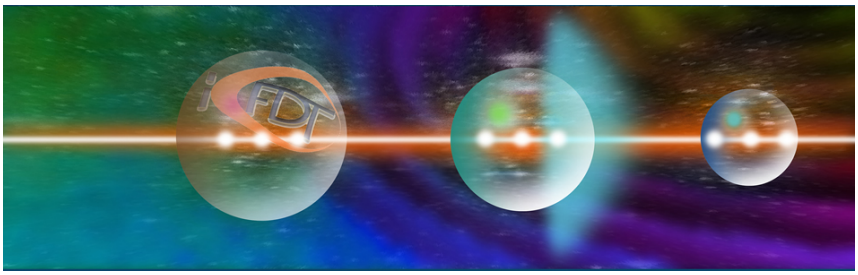

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Characterization of intense electromagnetic fields in the radiofrequency-microwave regime generated by powerful laser-matter interaction

Friday, October 5, 2018 12:15 PM (20 minutes)

The measurement of intense electromagnetic fields in the radiofrequency-microwave regime in experiments of laser interaction with matter is a hot topic both in laser-plasma particle-acceleration context and in inertial-confinement-fusion one. Fields up to MV/m intensity are generated in powerful interactions, but their characterization is a very delicate and complex issue, especially when using classical conductive probes. In this work we describe the measurements of these fields by means of electro-optic methods based on Pockels effect, capable to give accurate field characterization in very harsh environments for laser intensities up to the petawatt range. We describe also the techniques used in some experiments with high-intensity and high-energy lasers to achieve suitable field measurements also by means of classical conductive probes (a).

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