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Topical Research Conference Research Trends in Laser Matter Interaction 2010

May 7- 8, 2010
La Jolla, California 92037

EMISSION OF LIGHT BY HOT DENSE MATTER*

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Hot plasmas always emit radiation and the basic laws of emission from atoms are well understood. Emission by hot dense matter is less thoroughly understood but can be important as a diagnostic of temperature.

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In this talk we survey the emission of visible light by hot metals including the dramatic polarization effects, emission by small liquid droplets, emission by plasmas of variable density (laser heated plasmas or pellet-ablation plasmas), and the calculation of emission in molecular dynamic particle simulations of fusion plasmas at ignition condition.