

X- RAY EMISSION FROM LASER IRRADIATED CLUSTERS

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An intense short pulse laser impinged on a cluster imparts large oscillatory velocity v_{osc} to electrons and heats them. As the cluster expands, electron density falls and at some instant plasma frequency of cluster electrons, ω_p equals $\omega \sqrt{3}$ (where ω is the frequency of the laser), giving a resonant enhancement to v_{osc} . At this instant the electron radiate strong bremsstrahlung radiation in the x-ray band. The self focusing of the laser extends the length of the x-ray existing channel, hence the yield of x-ray generation.

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