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On the Stimulated Resonance Transition Radiation of a Bunch of Micro Bunched Electrons

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It is given a brief review of the theory of the stimulated coherent X-ray transition radiation produced in a RTR stack of plates (StRTR) under the influence of accompanying intense monochromatic beams by micro bunched electrons. Though there are tens of publications on the corresponding gain of the amplification of the primary X-ray photons by StRTR, nevertheless, the absence of some important results for new calculation makes to reconsider the existing results and derive the necessary expressions by new methods. Expressions for the gain or total number of photons of StRTR produed by a bunch of micro bunched electrons is derived. The applications of these new results for some experimental possibilities have been discussed.

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