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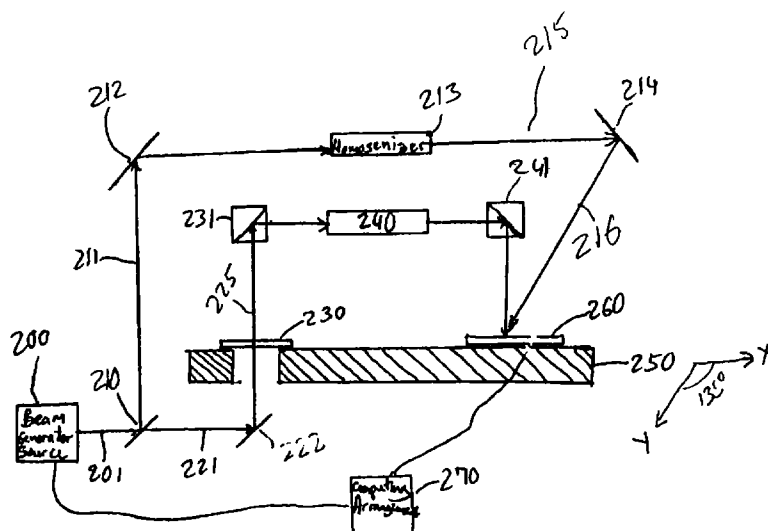
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162162 (54) Title: PROCESS AND MASK PROJECTION SYSTEM FOR LASER CRYSTALLIZATION PROCESSING OF SEMICONDUCTOR FILM REGIONS ON A SUBSTRATE



(57) Abstract: A process and system for processing a silicon thin film on a sample are provided. In particular, an irradiation beam generator is controlled to emit irradiation beam pulses at a predetermined repetition rate. These irradiation beam pulses are then separated into a first set of beam pulses and a second set of beam pulses. The first set of beam pulses are caused to irradiate through a mask to produce a plurality of beamlets. The second set of beam pulses and the beamlets are caused to impinge and irradiate at least one section of the silicon thin film. When the second set of beam pulses and the beamlets simultaneously irradiate the section of the silicon thin film, this combination of the beamlets and second set of beam pulses provides a combined intensity which is sufficient to melt the section of the silicon thin film throughout an entire thickness of the section.

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