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(54) Title: METHOD FOR INTERACTING ELECTROMAGNETIC RADIATION WITH A MATTER PARTICLE

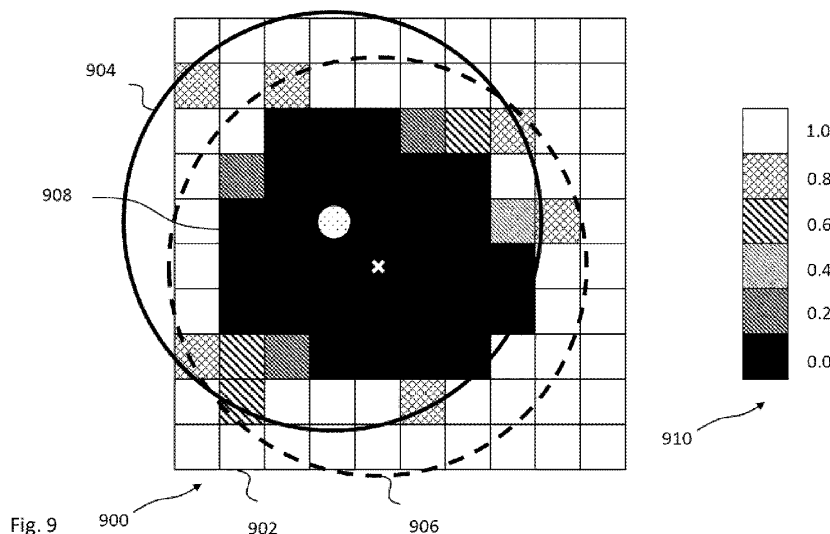


Fig. 9

(57) Abstract: The present disclosure pertains to matter-light interaction methods and systems using optical tweezers. There is provided a method for interacting electromagnetic radiation with a matter particle. The method comprises generating a region of first electromagnetic radiation, where the first electromagnetic radiation is centred about a first wavelength. The method further comprises trapping the matter particle in the region, where one or more resonant frequencies for ejecting the matter particle from the region are associated with the region and matter particle. The method further comprises directing second electromagnetic radiation to overlap the region, where the second electromagnetic radiation is centred about a second wavelength, and repeatedly varying the intensity of the second electromagnetic radiation at one or more of the said resonant frequencies.

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