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Growth of Droplet in Radiation-Induced Plasma of Own Vapour

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Abstract : The theoretical approach is developed to describe the change of drops in the atmosphere of own steam and buffer gas under irradiation. It is shown that the irradiation influences on size of stable droplet and on the conditions under which the droplet exists. Under irradiation the change of drop becomes more complex: the not monotone and periodical change of size of drop becomes possible. All possible solutions are represented by means of phase portrait. It is found all qualitatively different phase portraits as function of critical parameters: rate generation of clusters and substance density.

Keywords : irradiation, steam, plasma, cluster formation, liquid droplets, evolution
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