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Laser technology to guide rainfall to a particular region

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Rain bearing clouds can be effectively guided to a specific region during monsoon or other seasons so that rainfall shall be equitably distributed without creating drought situations. Lasers sent into the lower troposphere region with power in Gigawatt ranges, sufficient to create a temperature and pressure gradient and thereby creating a low pressure area in a specific region can invite rain bearing clouds in a region opposite to the heat and pressure gradient created by laser effects, so as to bring convective rainfall during a season. Pressure gradient describes the difference in air pressure between two points in the atmosphere or on the surface of the Earth. It is vital to wind speed, because the greater the difference in pressure, the faster the wind flows (from the high to low pressure) to balance out the variation. Satellite based monitoring system of cloud formations can be an effective guide to send laser beams in a direction towards the lower troposphere to create convective rainfall into another specific region. Laser beams are an attracted means of carrying concentrated power over distance. Hence, we choose a CO₂ laser ($\lambda=10.6\ \mu\text{m}$) whose power is not dissipated by interaction with any gas molecules and so diffraction will not take place. The beam stays coherent. Using up CO₂ gas will reduce excess carbon emissions on Earth and bring down global warming also. Thus a temperature and a pressure difference created by a CO₂ laser is enough to invite these clouds to move towards an opposite region and cause rainfall.

Biography

T K Subramaniam has completed his PhD from Banaras Hindu University, India, specializing in Laser Spectroscopy. He is presently working as Professor of Physics at Sri Sairam Engineering College, Chennai, India, teaching Under-graduate Physics at the college level for more than 20 years and also has six years of industrial experience. He has published more than 10 research papers in international journals of repute and is a Peer-Reviewer for the *Optical Society of America* (OSA) group of journals, besides serving in the Editorial Board of other reputed journals. Recently, he has presented a research paper at Olching, Germany, in November 2016.

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