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**Low energy decomposition of carbon dioxide and other molecules**

EUGENE PAMFILOFF, Mattertech LLC — Since the observation of elevating quantities of atmospheric greenhouse gases, finding a practical method other than the capture-and-sequestration scheme for the reduction and disposal of carbon dioxide ( $\text{CO}_2$ ) has been an important objective. Recently, an efficient low-energy process has been developed allowing the selective molecular decomposition of  $\text{CO}_2$ ,  $\text{CO}$ , and other molecules. Thus,  $\text{CO}_2$  can be broken down into  $\text{C} + \text{O} + \text{O}$ . This permits the  $\text{O}_2$  molecules to be stored or released while the clean carbon atoms can be bagged and utilized in various industries. For the control of carbon dioxide or other gas emissions at their source, it can be scaled up for power plants or down for smaller facilities. The process also allows the production of a beam of exclusively positive ions or exclusively negative ions and contrary to other devices, excludes the probability of beam contamination by plasma or neutral particles, making it ideal for electronic thin-films manufacturing and spectroscopy systems. Because the system allows the simultaneous production of ion beams containing selectable ratios of positive to negative ions, it simplifies construction of favored or complex molecules through varied ionic bonds. Also discussed are several methods to apply the new technology as an upgrade to spectrometers and other devices. For further information contact the author: epamfiloff@mattertech.com.

Eugene Pamfiloff  
Mattertech LLC

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