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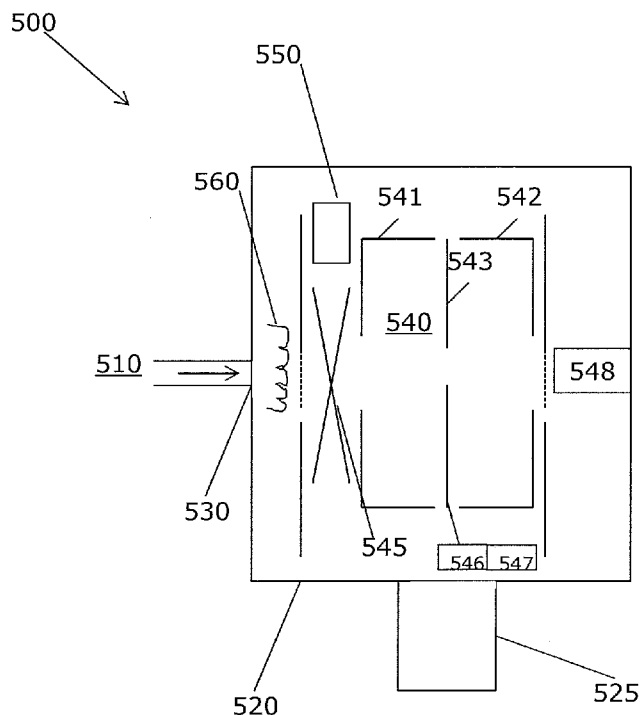
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(54) Title: TRACE GAS CONCENTRATION IN ART MS TRAPS



(57) Abstract: A method of detecting specific gas species in an ion trap, the specific gas species initially being a trace component of a first low concentration in the volume of gas, includes ionizing the gas including the specific gas species, thereby creating specific ion species. The method further includes producing an electrostatic potential in which the specific ion species are confined in the ion trap to trajectories. The method also includes exciting confined specific ion species with an AC excitation source having an excitation frequency, scanning the excitation frequency of the AC excitation source to eject the specific ion species from the ion trap, and detecting the ejected specific ion species. The method further includes increasing the concentration of the specific ion species within the ion trap relative to the first low concentration prior to scanning the excitation frequency that ejects the ions of the specific gas species.



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