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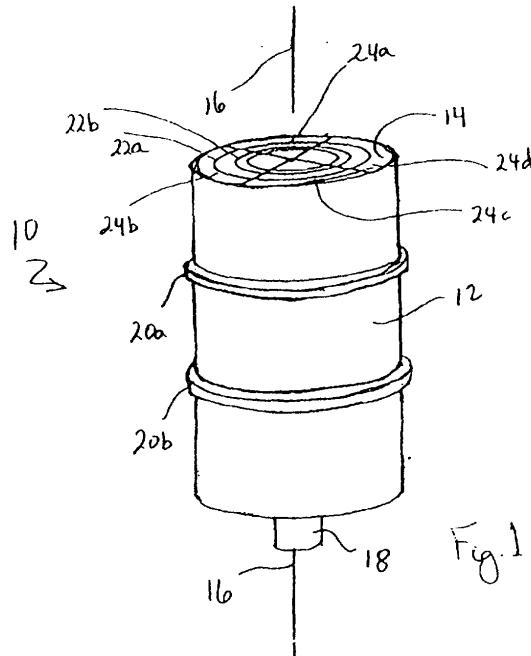
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(54) Plasma mass selector

(57) A plasma mass selector for processing a partially ionized multi-species plasma includes magnetic coils that are mounted on a cylindrical chamber to establish an axially oriented uniform magnetic field in the chamber. A segmented quadrupole electrode creates a non-uniform cyclotron electric field in the chamber that is oriented perpendicular to the chamber axis to cross with the magnetic field. With the plasma in the chamber, a controller is activated to operate the non-uniform cyclotron electric field at a predetermined cyclotron frequency (ω). The electric field thus resonates with selected charged particles having the predetermined cyclotron frequency (ω) to restrain the selected particles in orbits around the central axis during their transit through the chamber. On the other hand, non-selected particles are allowed to drift radially outward from the central axis for collision with the wall and subsequent removal therefrom.





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EUROPEAN SEARCH REPORT

Application Number
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			H01J B01D
<p>The present search report has been drawn up for all claims</p>			
Place of search	Date of completion of the search		Examiner
THE HAGUE	20 March 2003		Hulne, S
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone		T : theory or principle underlying the invention	
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ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 01 20 2936

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