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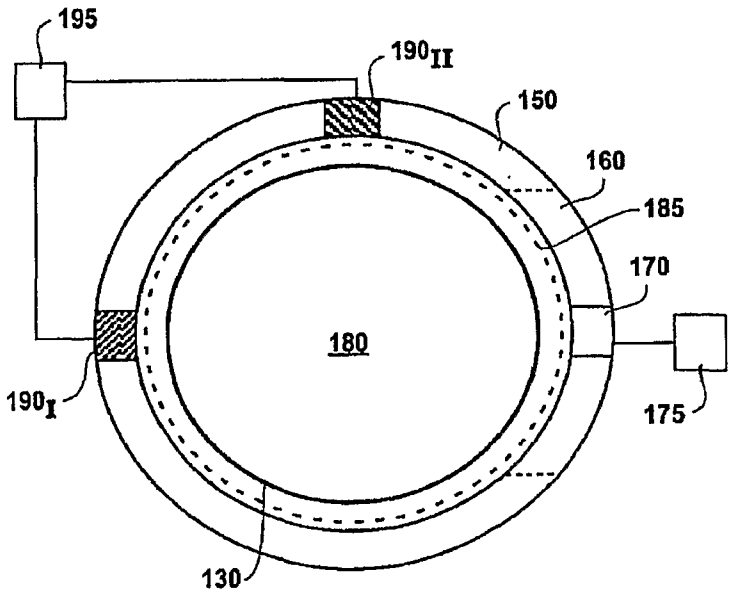
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(54) Title: CHAMBER PARTICLE DETECTION SYSTEM



(57) **Abstract:** Broadly speaking, the embodiments of the present invention fill the need by providing an improved chamber particle source identification mechanism. The in-situ chamber particle source identification method and apparatus can greatly shorten the time it takes to identify chamber particle source, which could improve the chamber throughput for production system. The method and apparatus can also be used to test components for particle performance during chamber engineering development stage. In one embodiment, an in-situ chamber particle monitor assembly for a semiconductor processing chamber includes at least one laser light source. The at least one laser light source can scan laser light in a chamber process volume within the processing chamber. The in-situ chamber particle monitor assembly also includes at least one laser light collector. The at least one laser light collector can collect laser light emitted from the at least one laser light source. The chamber particle monitor assembly also includes an analyzer external to the processing chamber that analyzes signals representing the laser light collected by the at least one laser light collector to provide chamber particle information.

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