

Title (en)
Microwave resonant cavity.

Title (de)
Mikrowellenresonanz Hohlraum.

Title (fr)
Cavité résonante pour les micro-ondes.

Publication
EP 0321792 A2 19890628 (EN)

Application
EP 88120527 A 19881208

Priority
US 13730487 A 19871223

Abstract (en)
A microwave resonant cavity (10) for a spectroscopic light source includes a housing (12) having therein a chamber (26) formed by side walls (14,16) and a cylindrical outer wall (18). The side walls having aligned openings (22,24) therethrough which are on the longitudinal axis of the outer wall (18). A refractory tube (34) which is adapted to contain a gaseous plasma extends through the aligned openings (22,24) and across the chamber (26) in the housing. The portion of the side walls (14,16) of the chamber (26) adjacent the openings (22,24) are closer together than the remaining portions of the side walls (14,16) so that the chamber (26) has a first portion (30) around the refractory tube (34) which is narrower than a second portion (32) of the chamber around the first portion. A coupling loop is electrically coupled to a side wall (16) of the chamber (26) within the second portion (32) of the chamber (26) and is connected to a coaxial connector (67,70) which extends through the outer wall (18) of the housing (12) to deliver microwave power to the chamber (26). This provides a resonant cavity (10) in which the plasma formed in the refractory tube (34) is very short for increased power and greater brightness of the plasma. This also provides a resonant cavity which requires no tuning and is more stable.

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